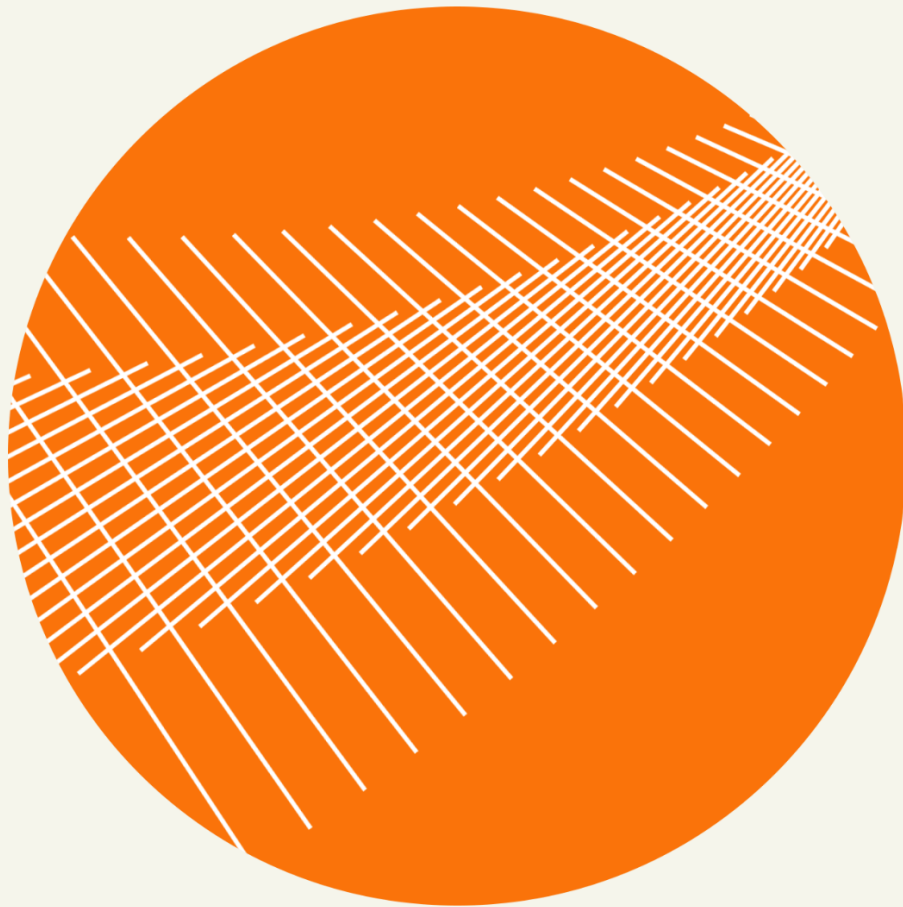


CTDSEC

YOU ARE PROTECTED



TERMS

No part of this publication, in whole or in part, may be reproduced, copied, transferred or any other right reserved to its copyright a CTDSec, including photocopying and all other copying, any transfer or transmission using any network or other means of communication, in any form or by any means such as any information storage, transmission or retrieval system, without prior written permission.

Smart contract security audit RAGE - PASS

Table of Contents

1.0 Introduction	3
1.1 Project engagement	3
1.2 Disclaimer	3
2.0 Coverage	4
2.1 Target Code and Revision	4
2.2 Attacks made to the contract	5
3.0 Security Issues	7
3.1 High severity issues [3]	7
3.2 Medium severity issues [7]	9
3.3 Low severity issues [5]	12
3.4 Informational Findings [0]	13
4.0 Testing coverage - python	14
5.0 Annexes	31
6.0 Summary of the audit [PASS 	61

1.0 Introduction

1.1 Project engagement

During September of 2025, Rage team engaged CTDSec to audit smart contracts that they created. The engagement was technical in nature and focused on identifying security flaws in the design and implementation of the contracts. Rage provided CTDSec with access to their code repository and whitepaper.

1.2 Disclaimer

It should be noted that this audit is not an endorsement of the reliability or effectiveness of the contract, rather limited to an assessment of the logic and implementation. In order to ensure a secure contract that's able to withstand the network's fast-paced and rapidly changing environment, we at CTDSec recommend that Rage team put in place a bug bounty program to encourage further and active analysis of the smart contract.

2.0 Coverage

2.1 Target Code and Revision

For this audit, we performed research, investigation, and review of the Rage contracts followed by issue reporting, along with mitigation and remediation instructions outlined in this report. The following code files are considered in-scope for the review:

Source file:

Rage.sol – [0x38D5A28479Ef574C6069e9D49dF5D8dc8F668718](#)

RageOracle.sol - [0xfc6C54f58A33a22D495EA8152aeB54F6D2bA1b45](#)

RageSwapper.sol - [0x23812Ae437929C266224DD119c19776BF9C0be25](#)

RageChaosEngine.sol - [0x70E5EB656FCcAB265f7a7Db199Be7Da069783932](#)

RageOptionNft.sol - [0xF340F570a50B9A6E352743830EFA77b8BEdb64db](#)

RageBuyingProtocol.sol - [0x4Ff19b27B6d610066Bd00FBdA6b882c3F9c5871E](#)

Fixed Commit - [2450258fd0f799503d23c2963312458556788e91](#)

2.2 Attacks made to the contract

In order to check for the security of the contract, we tested several attacks in order to make sure that the contract is secure and follows best practices.

No	Issue description.
1	Compiler warnings.
2	Race conditions and Reentrancy. Cross-function race conditions.
3	Possible delays in data delivery.
4	Oracle calls.
5	Front running.
6	Timestamp dependence.
7	Integer Overflow and Underflow.
8	DoS with Revert.
9	DoS with block gas limit.
10	Methods execution permissions.
11	Economy model. If application logic is based on an incorrect economic model, the application would not function correctly and participants would incur financial losses. This type of issue is most often found in bonus rewards systems, Staking and Farming contracts, Vault and Vesting contracts, etc.
12	The impact of the exchange rate on the logic.
13	Private user data leaks.
14	Malicious Event log.
15	Scoping and Declarations.
16	Uninitialized storage pointers.
17	Arithmetic accuracy.
18	Design Logic.

19	Cross-function race conditions.
20	Safe Zeppelin module.
21	Fallback function security.
22	Overpowered functions / Owner privileges

3.0 Security Issues

3.1 High severity issues [3]

1. Centralized and misconfigured ownership enables unilateral control and unlimited mint [Fixed

Contract: Rage.sol

Function: transferOwnership, mint

Issue: transferOwnership is callable only by a hardcoded EOA (not by owner), allowing that address to reassign owner at any time. The owner can then call mint to create unlimited tokens. This combination enables catastrophic dilution and market manipulation if the hardcoded EOA or owner is compromised or malicious.

Recommendation: Make transferOwnership owner-only, remove the hardcoded caller, guard against zero address, and emit (oldOwner,newOwner). Add a capped or governance-/timelock-gated mint policy with rate limits or remove minting entirely if supply should be fixed.

Fix: Rage.mint for operational minting is gone; replaced with Rage.requestSupply(percent) gated to the RCE ("owner") with:

Per-request cap: MAX_SUPPLY_PERCENT = 10 (10% of total supply per request)

Rate limit: SUPPLY_DELAY = 1 days

Immediate mint: tokens are minted to RCE immediately on request (no execution queue)

Additional improvements: Add queued timelock with cancel

2. Oracle helpers revert when any asset input/balance is zero (functional DoS) [Acknowledge

Contract: RageOracle.sol

Function: calculateIncomingAssetsValue, calculateActiveAssetsFromValue (primary), Indirectly: getIncomingAssetsValue, getActiveAssetsFromValue

Issue: The helpers require multiple asset amounts to be strictly > 0 (for example noCircleIn, noActivePcircleAmount). Realistic states often have one or more assets at zero, causing unnecessary reverts and blocking mint/redeem flows that rely on these calculations.

Recommendation: Allow zero amounts and compute values conditionally. Remove strict non-zero requires and treat missing components as 0 in the aggregation.

3. Claim payout can under-deliver vs computed claim without failing [PASS

Contract: RageBuyingProtocolBeta.sol, RageOracle/RageCalculation (used for sizing)

Function: ProcessClaim() (uses getPRageRequiredForRage, getPcircleRequiredForCircle, getPohmRequiredForOhm -> debondAssets)

Issue: processClaim computes the exact pToken needed from oracle math, then debonds and transfers whatever actually came back. It only checks RageDebanded > 0 and that balances increased, but does not assert debanded $\geq$ overview.claim{Asset}. If any rounding/fee/skew makes debond return less than the intended claim (even by more than a couple wei), the function still marks the claim as completed and burns the user RAGE for the full amount user receives less than owed with no recourse.

Recommendation: After debond, require RageDebanded $\geq$ overview.claimRage (and same for others), or recompute residual and keep claim active for the shortfall or alternatively, over-provision pToken input using conservative rounding-up to guarantee $\geq$ target

3.2 Medium severity issues [7]

1. Debond assumes single-asset output - residual tokens can be stranded and later admin-swept [N/A]



Contract: RageSwapper.sol

Function: executeDebond, performDebond, debondAssets, convertPRageToRage, convertPCircleToCircle, convertPOhmToOhm

Issue: After pod.debond, the swapper measures and forwards only one tokenOut. If the pod returns additional tokens (fees/rewards), they remain in the contract and can be withdrawn by admin via withdrawToken, causing user value leakage.

Recommendation: Constrain pods to single-asset redemption by interface/version or track token balance deltas across an allowlist and forward all increased balances to the user within the same tx.

2. Missing comprehensive price protection and deadlines [Fixed

Contract: RageSwapper.sol

Function: swapEthForUsdc (uses slippage=0), processUsdcToCircle (USDC↔WETH leg slippage=0), processCircleToUsdc (WETH↔USDC leg slippage=0), and all swap entry points relying on executeSwap (for example performSwap, swapRageForUsdc, swapUsdcForRage, swapOhmForUsdc, swapUsdcForOhm, swapRageForUsdc, swapUsdcForRage, swapUsdcToAssets, swapAssetsToUsdc) none enforce a deadline.

Issue: Several legs run with slippage=0, and no function enforces a per-swap deadline. Transactions can execute at highly unfavorable prices under MEV/sandwich attacks or delayed inclusion.

Recommendation: Require non-zero, reasonable slippage on every leg and enforce a per-swap deadline (like block.timestamp + N). Consider TWAP/oracle checks for max price impact on large trades.

Fix: Implemented deadline parameters across all functions to enhance transaction control and reliability. All token swaps now include slippage protection, with the exception of the WETH-USDC pool. The WETH-USDC pair, which is also supported without slippage on the Rage Chaos Engine, benefits from exceptionally high liquidity, mitigating the need for additional slippage settings.

3. ETH withdrawals can brick due to .transfer gas stipend [Fixed

Contract: RageSwapper.sol, RageChaosEngine.sol, RageBuyingProtocolBeta.sol

Function: withdrawEth, RageChaosEngine.withdrawEth, RageBuyingProtocolBeta.withdrawEth

Issue: .transfer forwards only 2300 gas, if the multisig/receiver is a smart contract that needs more gas in receive/fallback, the withdrawal reverts, potentially locking ETH.

Recommendation: Use low-level .call{value: amount}("") with success check, or a safe transfer helper. Consider a configurable gas limit if needed.

Fix: switched to call{value:...}("") with success check

4. Protocol entry points have no swap deadlines and rely on external swapper legs that may use zero slippage [Fixed

Contract: RageBuyingProtocolBeta.sol

Function: investEthProcess (via swapEthForUsdc), investProcess (via swapUsdcToAssets), refund (via swapAssetsToUsdc)

Issue: RBP routes trades through RageSwapper, which executes certain legs with slippage=0 and has no deadlines. Calls from these protocol entry points inherit that behavior, allowing transactions to execute at highly unfavorable prices under MEV/sandwich or delayed inclusion, harming users and treasury accounting.

Recommendation: Enforce per-call deadlines and non-zero, bounded slippage at the protocol layer before calling the swapper. Optionally add TWAP bounds from RageOracle for max price impact on large orders. Consider extending the swapper interface to require a deadline and reject slippage==0.

Fix: The swapper now supports deadlines

5. RageOption NFT can be burned unilaterally by the protocol (centralized control over user NFTs) [Fixed

Contract: RageOptionNftBeta.sol

Function: burn

Issue: burn(uint256 tokenId) is callable by the Rage Buying Protocol regardless of NFT ownership or approval. While intended for option lifecycle, this allows the protocol to burn any user NFT at will, which is a strong trust/centralization assumption and could be abused or triggered by a compromised RBP.

Recommendation: Constrain burns to lifecycle-verified paths only. Options:

Require the caller to be the RBP and the option to be in a burnable status (checked via RBP or RCE), or

Implement a permit/approval model where the user (NFT owner) authorizes protocol burn for a specific tokenId, or

Mint NFTs as soulbound to the protocol and expose a user-initiated redeem that the protocol triggers via pull (safer but UX tradeoffs).

Fix: Now requires RBP to be the current owner before burning additionally, we recommend to implement owner-signed burn (permit) or require owner-initiated transfer to RBP for burn.

6. Automator can be set to the zero address, bricking privileged ops and withdrawals [Fixed

Contract: RageChaosEngine.sol

Function: setAutomator

Issue: setAutomator(address) lacks a nonzero check. Setting AUTOMATOR = address(0) makes withdrawEth, withdrawToken, and setConfigs (all AUTOMATOR-gated) unusable, creating a liveness/ops DoS on critical treasury operations.

Recommendation: Add require(automator != address(0), "invalidAutomator"). Consider a two-step change (propose/accept) or owner co-sign to reduce misconfiguration risk. Log previous and new automator.

Fix: Added explicit zero-address (and owner) rejection.

7. Initialization accepts zero addresses for core dependencies (swapper / RBP), risking permanent liveness failures [Fixed

Contract: RageChaosEngine.sol

Function: initialize

Issue: initialize(address rageSwapper, address rageBuyingProtocol) does not validate inputs. A one-time call with address(0) for either parameter will set unusable dependencies (for example swaps/buys in rageCrush via RAGE_SWAPPER, or mintRage gating via RAGE_BUYING_PROTOCOL) and can permanently brick core flows since initialize is single-use.

Recommendation: Validate nonzero and interface compliance (like code size > 0) for both addresses, add an initialized guard (present) plus explicit revert reasons for bad params, consider allowing an owner-governed, 2-of-2 update path if a dependency must be rotated post-init.

Fix: Now require(rageSwapper != address(0)) and require(rageBuyingProtocol != address(0)) (with clear errors).

3.3 Low severity issues [5]

1. TWAP robustness & interval misuse risks (precision/rounding) [Fixed

Contract: RageOracle.sol

Function: getTwapPrice (core) callers: getWethTwapUsdcPrice, getRageTwapUsdcPrice, getCircleTwapUsdcPrice, getOhmTwapUsdcPrice, getRageTwapUsdcPrice

Issue: Custom averaging and Q96 math without min/max interval bounds or standard rounding patterns. Very small/large intervals can be manipulable or revert if outside observation capacity so rounding may deviate from Uniswap reference.

Recommendation: Adopt Uniswap's OracleLibrary.consult-style approach, enforce sensible min/max intervals, and add sanity checks on outputs.

2. Infinite approvals to pods increase blast radius on pod compromise [Acknowledge

Contract: RageSwapper.sol

Function: constructor (approval setup)

Issue: Constructor grants unlimited allowances to pod contracts for underlying and pTokens. If a pod is upgradable/compromised, it could pull approved balances present in the swapper.

Recommendation: Prefer per-call allowances where feasible or otherwise minimize idle balances, document trust assumptions, and monitor pod governance/upgrades.

3. Misreported field in processClaimOverview (configClaimFee returns delay) [Fixed

Contract: RageBuyingProtocolBeta.sol

Function: processClaimOverview

Issue: The struct field configClaimFee is assigned existingClaim.configClaimDelay instead of the fee. This is a correctness/UX bug that can mislead frontends and users about the fee configuration.

Recommendation: Return the correct value:

```
configClaimFee: existingClaim.configClaimFee
```

and ensure the claim struct stores both fee and delay distinctly (it already does). Add tests to assert field wiring.

4. Strict pending-balance checks can cause avoidable view-function reverts (liveness/UX)

[Acknowledge ]

Contract: RageBuyingProtocolBeta.sol

Function: getPendingAssets (and any view that depends on it, for example investOverview)

Issue: getPendingAssets requires token balances in the contract to be $\geq$ recorded pending amounts and reverts otherwise. Temporary discrepancies (rounding, transfers in flight, or harmless dust movements) can cause read-path reverts and UI failures without protecting funds.

Recommendation: For view helpers, avoid hard require checks; instead, cap by $\min(\text{onchainBalance}, \text{pendingRecorded})$ or return both values for off-chain reconciliation. Keep strict checks on state-changing paths where necessary.

5. Unbounded mint function is a critical tokenomics risk [Fixed]

Contract: Rage.sol

Function: mint

Issue: mint(address,uint256) has no cap, schedule, or timelock. Even with correct access control, a compromised owner can mint arbitrary supply and dump into liquidity, destroying holders value.

Recommendation: Introduce ERC20Capped or enforce mint limits via multisig + timelock + max inflation per period. If minting is not essential, remove it.

3.4 Informational Findings [0]

No informational findings were found.

4.0 Testing coverage - python

During the testing phase, custom use cases were written to cover all the logic of contracts in python language. **Check "5 Annexes" to see the testing code.*

```

tests/test_buy_proto.py::test_withdraw RUNNING
Transaction sent: 0x5d5d4ad85d3a4ea1695f547dc60d139cf4a87f44f424eee4b8e14a01ea95a48b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
WETH9.constructor confirmed Block: 1 Gas used: 471464 (3.93%)
WETH9 deployed at: 0x3194c8DC3dbcd3E11a07892e7bA5c3394048Cc87

Transaction sent: 0xd78b8ec17c2b39f318ee6fbddb30daa8582e48fd77d76cd53a67a8649cb5767a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 1
ERC20Mock.constructor confirmed Block: 2 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x602C71e4DAC47a042Ee7f46E0aee17F94A3bA086

Transaction sent: 0x71de02b1b448635a27d0701d28f1299d52a5369a2b2111e44455773880a4abbe
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 2
Rage.constructor confirmed Block: 3 Gas used: 891747 (7.43%)
Rage deployed at: 0xE7e06747FaC5360f88a2EFC03E00d25789F69291

Transaction sent: 0x72ca4c808492676d12afdf85fdf0f7927e8e66eaf946daf9f8b15d2ed056a3da
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 3
MockUniswapV3Pool.constructor confirmed Block: 4 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x6951b58d815043E3F842c1b026b0Fa888Cc20085

Transaction sent: 0xb9b9819655621a123cble184ad94657dd0656a4ab485640ecb4dd19864b3f681
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 4
MockUniswapV3Pool.constructor confirmed Block: 5 Gas used: 312774 (2.61%)
MockUniswapV3Pool deployed at: 0xe0aa552A10d7EC8760Fc6c2460391E698a82dDf9

Transaction sent: 0x311e8bd5dbda628547ba8350b456e35fc949524f56f95f6ad82c96371311da76
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 5
UniswapV3Factory.constructor confirmed Block: 6 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0x6b48De1086912A6Cb24ce3d843b3466e6c72AFd3

Transaction sent: 0x6a606365b78083e75ce455b3fa23f6efa3b2a370e0acb297e3197e6d37bfd3a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 6
MockNonfungiblePositionManager.constructor confirmed Block: 7 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0x9E4c14403d7d9A8A782044E86a93CAE0907B2ac9

Transaction sent: 0x5e267e24357d031e6c8b906994e7c6ccc03891d080f2a8fd7239de4dc2e19df5
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 7
MockNonfungiblePositionManager.mint confirmed Block: 8 Gas used: 121180 (1.01%)

Transaction sent: 0x70b92365f5b136cd94560018516f50edce0a79879813b705f0437671d66758f9
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 8
RageChaosEngine.constructor confirmed Block: 9 Gas used: 2668691 (22.24%)
RageChaosEngine deployed at: 0x420b1099B9eF5baba6D92029594eF45E19A04A4A

Transaction sent: 0x5ac2468fa2a5d57dc7777279942062a1a4181a6073f03740502cd50864825a77
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 9
RageSwapper.constructor confirmed Block: 10 Gas used: 5165257 (43.04%)
RageSwapper deployed at: 0xa3853d0Cd2E3fC28e8E130288F2a8D8d5EE37472

Transaction sent: 0x76a4d4b355a8d33dcedb430336b915766f1bd188339293983e40535c0ec704c6
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 10
RageOracle.constructor confirmed Block: 11 Gas used: 4509258 (37.58%)
RageOracle deployed at: 0xb6286fAFd0451320ad6A8143089b216C2152c025

Transaction sent: 0x8c3c935e63ef8099fd91a3c13e3e46231bf18523a4ee2d4ee5eb6be777fa02f4
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 11
RageOptionNftBeta.constructor confirmed Block: 12 Gas used: 1919717 (16.00%)
RageOptionNftBeta deployed at: 0x7a3d735ee6873f17Dbdcab1d51B604928dc10d92

Transaction sent: 0xc7e51bd8bf2d0d3e079fb516b134c3423a56efbfe02822793111bcf3ca981013
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 12
RageBuyingProtocolBeta.constructor confirmed Block: 13 Gas used: 5655290 (47.13%)
RageBuyingProtocolBeta deployed at: 0x2c15A3156108fa5248E4CbCb693320e9D8E03Cc

Transaction sent: 0xe5098b036cee73a4b4b4f5cd606fcd233a2c5191a7dfcb06c6a98c6f50cff8b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
RageBuyingProtocolBeta.withdrawEth confirmed (unauthorized) Block: 14 Gas used: 24063 (0.20%)

```

```

tests/test_rage_swapper.py::test_swap RUNNING
Transaction sent: 0xd2c83658c533e4ce0b5860faae16b11640487b27fb64208bcc523db6262b409
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 138
METH9.constructor confirmed Block: 196 Gas used: 471464 (3.93%)
METH9 deployed at: 0x50f517fa383506722429e987dc109a81a80f6c8c

Transaction sent: 0x34cd742a9cf96d654a565f265ea0ce120935a3827636649a352ba282985de2c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 139
ERC20Mock.constructor confirmed Block: 197 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x509361eC8eFca73bF0ba8001AFdE482F225F822b

Transaction sent: 0x1ec8d6d17fa2a2ac62c2510001df0f21a4963678b618cc11b04d4f7753e163de
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 140
Rage.constructor confirmed Block: 198 Gas used: 891747 (7.43%)
Rage deployed at: 0xcCa93aF54060793ED3A7E6bd3Bb312CfC6C27e3A

Transaction sent: 0x95b1da8753fa27904bc3f517db8b3a2eaf8e296cde5f43387c3ef631af1aaf83
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 141
MockUniswapV3Pool.constructor confirmed Block: 199 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0xfae867E5af6bad2F6319b608778bdEa38440C551

Transaction sent: 0x15732218aaa8c8b03ac9df2a669ea13e1bcbdb52b9895bb9e33728a1e47b0b93
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 142
MockUniswapV3Pool.constructor confirmed Block: 200 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x15485F0aC69393ECf720FF8373f1e999e082d14c

Transaction sent: 0x840af6f741b72fe897a83613541c21b73f7a12b32fbd5f5fc79ac7a9c7215c63
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 143
UniswapV3Factory.constructor confirmed Block: 201 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0x2E909EB106C0E52E457E44BA6D19927aaAfC2635

Transaction sent: 0xf7af5583208bf881d7c3d36d90441d194712a31e504a7a16f7050000ad54a5063
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 144
MockNonfungiblePositionManager.constructor confirmed Block: 202 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0x764c7A4A7c6e7Bc79e50b708cac6a806c171d640

Transaction sent: 0x254ca3ee57d5d1e6f275ff4841b55faf8bd65687d3bd4d89d6962c39ba87c997
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 145
MockNonfungiblePositionManager.mint confirmed Block: 203 Gas used: 121192 (1.01%)

Transaction sent: 0xde0e155357089a002b3ef8e7d35cb2cf39c96555b1f705114c53453078f13d40
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 146
RageChaosEngine.constructor confirmed Block: 204 Gas used: 2668703 (22.24%)
RageChaosEngine deployed at: 0x50839b88650b3f58549C315863F73CE57A3d78d2

Transaction sent: 0x066439a1081a1914e96d2b55578d9acca2e1e5ba1ddc11cdf0e0712b58a1fe6
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 147
RageSwapper.constructor confirmed Block: 205 Gas used: 5165269 (43.04%)
RageSwapper deployed at: 0x31420eF20ef717e333F7298300b7Cba399f7C17B

Transaction sent: 0x78cae7db74b407265fe03bd7908f5c7b3498b8ae3c85a9e795b87e0f775b1ee4
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 18
RageSwapper.swapEthForUsdc confirmed (noEthSent) Block: 206 Gas used: 27254 (0.23%)

Transaction sent: 0x4518927486f9b51f8f8a02fec839b6129f592ff3a59019437b5caf0043d01379
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 148
ERC20Mock.mint confirmed Block: 207 Gas used: 50521 (0.42%)

Transaction sent: 0x34edb9537c0c5ea37a8c32e7549c30c53300ald3c93af14c635a5a572032c71
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 1
METH9.approve confirmed Block: 208 Gas used: 44049 (0.37%)

Transaction sent: 0xf7c28a688a009a203f99b0e6f4d999450465d5595e62bb0b659cc77ba4e165be
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 19
RageSwapper.swapEthForUsdc confirmed Block: 209 Gas used: 99009 (0.83%)

Transaction sent: 0xd0ddcda5c662e5c5f74aed2db8287d0fb273cf3982ccbbf2b73112a4ed7e1b4d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
RageSwapper.swapEthForUsdc confirmed Block: 210 Gas used: 84009 (0.70%)

tests/test_rage_swapper.py::test_swap PASSED

```



```
Transaction sent: 0x8d65776a609b1ae09052362139f626455f3991c6f331eff36bad10bec1bd7f0c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
RageBuyingProtocolBeta.withdrawEth confirmed Block: 15 Gas used: 24762 (0.21%)

Transaction sent: 0x2910f5c96d908934b2c27b3ba19b5513b2b8cf93833f31e2211c46d3ba86ec03
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 1
RageBuyingProtocolBeta.withdrawToken confirmed (unauthorized) Block: 16 Gas used: 24694 (0.21%)

Transaction sent: 0xb84ba66c1c6af09a18328142e11bf470fc22a5096df46e9ddf376624477113f3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 1
RageBuyingProtocolBeta.withdrawToken confirmed (invAmo) Block: 17 Gas used: 24671 (0.21%)

Transaction sent: 0x427bea320036a953a61d9add547b9fd4bb87262e79762a36d39f090f99070438
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 2
RageBuyingProtocolBeta.withdrawToken confirmed (ins8a1) Block: 18 Gas used: 27113 (0.23%)

Transaction sent: 0x36dc412e85e5dc43fd0f9ef6aab215edd9f96d206ea5afa5ae00a4f8a24495c0
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 13
ERC20Mock.mint confirmed Block: 19 Gas used: 50545 (0.42%)

Transaction sent: 0x5dcbcd716807d4a961007dc66581e4f2880ddb53230fa0d4ea72dc4ac646d07f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 3
RageBuyingProtocolBeta.withdrawToken confirmed Block: 20 Gas used: 42327 (0.35%)

tests/test_buy_proto.py::test_withdraw PASSED
```

```

tests/test_buy_proto.py::test_set_status RUNNING
Transaction sent: 0xdcd9f9d19ef4fdd7a21c1c2812f85b28078ff638282850e82470022b5fe600d3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 14
WETH9.constructor confirmed Block: 21 Gas used: 471464 (3.93%)
WETH9 deployed at: 0xe65A7a341978d59d40d30FC23F5014FAC84f575A

Transaction sent: 0xa4aede245b6f533975503784f7267f4f727abed50b3e7e20a4db262dc3838c8
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 15
ERC20Mock.constructor confirmed Block: 22 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x30375B532345B01cB8c2AD12541b09E9Aa53A93d

Transaction sent: 0x8bf3cc7726e3136a2e519d59ec4f5904471c509a6a37609d20dbf70b81442b190
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 16
Rage.constructor confirmed Block: 23 Gas used: 891747 (7.43%)
Rage deployed at: 0x26f153358B1C6a4C08660eDd694a0555A9F1cce3

Transaction sent: 0xabbf5f279a2ee9c5886305a753115a458526e48eab5cc254ad2183512b2d1a572
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 17
MockUniswapV3Pool.constructor confirmed Block: 24 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0xFbD588c72B438faD4Cf7cD879c8F730Faa213Daa0

Transaction sent: 0xe366d0d0255b4aa849593581ab088629d85e79f06f808a6740230833c5fd0870
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 18
MockUniswapV3Pool.constructor confirmed Block: 25 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0xed00238F9A0F7b4d93842033cdf56cCB32C781c2

Transaction sent: 0x3778b23d8c3325562e0d92be4f30d758cd2aa62b45df7634d2cb667e2913cead
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 19
UniswapV3Factory.constructor confirmed Block: 26 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0xDae02e4fE488952cF88c951771540188647a0146

Transaction sent: 0xaff8f51065361aa9debe519f94684cab13ea2c58a9604fe6b251e4593c66aaed
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 20
MockNonfungiblePositionManager.constructor confirmed Block: 27 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0xdCF93F11ef216cEC9C07fd31d0801c9b2b39Afb4

Transaction sent: 0x06bf2743d0fa26fa67f42f74a4058d8f5616797a6311ec110631ddb06c0ee9ec
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 21
MockNonfungiblePositionManager.mint confirmed Block: 28 Gas used: 121192 (1.01%)

Transaction sent: 0x98030528e0c855973bd37512ee4492896d7562982ec3a574e7e2328a59d0083
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 22
RageChaosEngine.constructor confirmed Block: 29 Gas used: 2668703 (22.24%)
RageChaosEngine deployed at: 0xD22363efee93190f82b52FCD62B7D0cb920ef658

Transaction sent: 0xf1b90e0fdd57e142f903b09e2b9f606e78062a80eb6449dc9e98673310805451
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 23
RageSwapper.constructor confirmed Block: 30 Gas used: 5165257 (43.04%)
RageSwapper deployed at: 0x4D1B781ce5988C184F63B99039d6719A522f46B5

Transaction sent: 0xf867fe1596ee16c32011b742a9bfed6c0e85e5511e963d16c8ec9a0a821e9875
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 24
RageOracle.constructor confirmed Block: 31 Gas used: 4509258 (37.58%)
RageOracle deployed at: 0xf9C8Cf55f2E520808d869df7bc76aa3d3dd0F913

Transaction sent: 0x8b3305be9bb852eb93681938a1ff11ded16ccbbda2d399db8972473b986787c0
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 25
RageOptionNftBeta.constructor confirmed Block: 32 Gas used: 1919717 (16.00%)
RageOptionNftBeta deployed at: 0x654f70d8442EA18904FAD79114f7250F7E9336

Transaction sent: 0x83be48cd9b4d53294d0c59155810e497c0eale0aa9c7429ebfe797b95cf7109a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 26
RageBuyingProtocolBeta.constructor confirmed Block: 33 Gas used: 5655302 (47.13%)
RageBuyingProtocolBeta deployed at: 0xA0eD61D42dE86f9058386D1D0d739d20C7eAfC43

Transaction sent: 0x5bf3c3bf38abde23fcd5fcc7c8fec51e0636e49440d4aba071baf8be72f4da70
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 2
RageBuyingProtocolBeta.setStatus confirmed (unauthorized) Block: 34 Gas used: 29964 (0.25%)

```

```

Transaction sent: 0xb1b7c362bb0a645caf167f916df90272efcd281d4262570b00aef87c12155c2c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 4
RageBuyingProtocolBeta.setStatus confirmed (invalidStatus) Block: 35 Gas used: 30007 (0.25%)

Transaction sent: 0x0cf195531alc10799b4f54babbd3a50c2b980114e6e603983446d624927e383d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 5
RageBuyingProtocolBeta.setStatus confirmed Block: 36 Gas used: 46527 (0.39%)

tests/test_buy_proto.py::test_set_status PASSED
tests/test_rage.py::test_mint RUNNING
Transaction sent: 0x7e56ad758e4fa131ad019e06ed171502ab0e11880b4a04e522df39e8ee5a9703
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 27
Rage.constructor confirmed Block: 37 Gas used: 891747 (7.43%)
Rage deployed at: 0x8326980aec363C9A7aB036C224Af5821280b3AC6

Transaction sent: 0xce663c562e41d21485ba80678cef8dae4f14d21d91d59e54a949601bb8914aed
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 3
Rage.mint confirmed (unauthorized) Block: 38 Gas used: 22967 (0.19%)

Transaction sent: 0xf2f4596e60ee7945e17607d73fd9ec216f954f0e705a284454819aa5a18151c3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 28
Rage.mint confirmed Block: 39 Gas used: 72334 (0.60%)

tests/test_rage.py::test_mint PASSED
tests/test_rage.py::test_burn RUNNING
Transaction sent: 0x7a059cd8c736cd6bcc67ba2b2cd3a7286d01f050b6944f8f7637332b70cad29
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 29
Rage.constructor confirmed Block: 40 Gas used: 891747 (7.43%)
Rage deployed at: 0x42E8D0004c84E6B5Bad559D3b5CE7947AADb9E0bc

Transaction sent: 0xd103ec78bbb79d1f3169487d37103ed220d52cbc04b2b4a5dcdb7322073437ab
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 30
Rage.mint confirmed Block: 41 Gas used: 72334 (0.60%)

Transaction sent: 0x7a712a4440642d47083c7f188d52ee7b58bf43895155de1c220f0f0b29895ff6
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 4
Rage.burn confirmed Block: 42 Gas used: 56023 (0.47%)

tests/test_rage.py::test_burn PASSED
tests/test_rage.py::test_transfer_ownership RUNNING
Transaction sent: 0x5b8ca2ee03c42d82a23cf02fa3e6183c6f799e11e0dc226c3f0bf9721e54ff23
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 31
Rage.constructor confirmed Block: 43 Gas used: 891747 (7.43%)
Rage deployed at: 0x82c83b7f88aef2eD99d4869D547b6ED28e69C8df

Transaction sent: 0x448f041a443eb27427e3a507dd83c009b51fb753b7b789f0f5cdf21d3f37021e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 5
Rage.transferOwnership confirmed (unauthorized) Block: 44 Gas used: 22198 (0.18%)

Transaction sent: 0xca3f268e7ea7f03cc34d7d66460c2e9faadf4af112affc75c963ea5545e91712
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
Rage.transferOwnership confirmed Block: 45 Gas used: 29490 (0.25%)

tests/test_rage.py::test_transfer_ownership PASSED

```

```

tests/test_rage_chaos.py::test_initialize RUNNING
Transaction sent: 0x9aac63928740a5c399ea6588cf9b2a12bd1bbca3fc4b80b831029faa79952f7f
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 32
  WETH9.constructor confirmed Block: 46 Gas used: 471464 (3.93%)
  WETH9 deployed at: 0x724Ca58E1e6e648F81E15d7Eec0fe1E5f581c7b0

Transaction sent: 0x68aad4708993768f836946a03141b6448f58fcd98d27991b4c4b5689ed4e5ef7
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 33
  ERC20Mock.constructor confirmed Block: 47 Gas used: 683611 (5.70%)
  ERC20Mock deployed at: 0x34b97ffa01dc0DC959c5f1176273D0de3be914C1

Transaction sent: 0xc681e05d6e0b1ddbb4119d9be9a88034fd6bca2738128ede6825bf62806b31eb
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 34
  Rage.constructor confirmed Block: 48 Gas used: 891747 (7.43%)
  Rage deployed at: 0xc830Ad2FDfCC2f368fE50eC93b1Dc72ecABb3691

Transaction sent: 0x261af910fbed7d26fcc3bc0919e81ba48055e819e86a2e07c026e193847601492
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 35
  MockUniswapV3Pool.constructor confirmed Block: 49 Gas used: 312786 (2.61%)
  MockUniswapV3Pool deployed at: 0xbc8eCcc89650c3E796e803C80098F9b898C8359

Transaction sent: 0x36f0ad46edd974d875beeb1a2ead187526e31ea53a0a865e0ac101a779d08bc
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 36
  MockUniswapV3Pool.constructor confirmed Block: 50 Gas used: 312786 (2.61%)
  MockUniswapV3Pool deployed at: 0x741e3E1f81041c62CA97d0b6E567AcaB09A6232

Transaction sent: 0x162574694462172f8f59d1f562d2c4f748467066c5a5d4e2a12ea0c569439517
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 37
  UniswapV3Factory.constructor confirmed Block: 51 Gas used: 5421585 (45.18%)
  UniswapV3Factory deployed at: 0x480FccF53589c1F185835db88b8315a0bBF9a3e0

Transaction sent: 0xb733b328964a7957dda2396f9d6ad0623aff70043d940e2f9f0a0c4b5c2e4ca8
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 38
  MockNonfungiblePositionManager.constructor confirmed Block: 52 Gas used: 561735 (4.68%)
  MockNonfungiblePositionManager deployed at: 0xFE0F4Cf81B5c0a6Fd65a610FD9488F33aE9095c8

Transaction sent: 0x78e11e496c95a7473cd27a4436fbd10fcbfeca5965dd4ae5c8dd0f19d301e973
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 39
  MockNonfungiblePositionManager.mint confirmed Block: 53 Gas used: 121192 (1.01%)

Transaction sent: 0x389426c800c828d189fd2c31de2c666b3c22799a8da3b04e6ccd91d76355df40
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 40
  RageChaosEngine.constructor confirmed Block: 54 Gas used: 2668703 (22.24%)
  RageChaosEngine deployed at: 0x0AC45e945A008D3fc19da8f591be8601C1F63130

Transaction sent: 0x1fa3e82d03f21450ee837e9f3b9a1fb34c2d24da19c8488da6f286787977ac7b
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 41
  RageSwapper.constructor confirmed Block: 55 Gas used: 5165257 (43.04%)
  RageSwapper deployed at: 0x5847798CE8c89e3Fff59AE5fA30BEC0d406b5687

Transaction sent: 0x25cfd696a1f36d4dff679cb04615e1a6a405d6180a5e2ad180507eeaf9af0871
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 42
  RageOracle.constructor confirmed Block: 56 Gas used: 4509270 (37.58%)
  RageOracle deployed at: 0x0C60536783db9ED5A2B216970810FF2243d317d0

Transaction sent: 0xccd4572b3e2ef6f4aa2e613918371b08edfc43da4730a425d765fac194460b18
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 43
  RageOptionNftBeta.constructor confirmed Block: 57 Gas used: 1919705 (16.00%)
  RageOptionNftBeta deployed at: 0x0e19E87b363D07a3af5c45C95ab6885367251B94

Transaction sent: 0xbf08d816cb19cd0fbde4fb9cb2025a685608740bcbfelb507afb0bf1ed91fe54
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 44
  RageBuyingProtocolBeta.constructor confirmed Block: 58 Gas used: 5655290 (47.13%)
  RageBuyingProtocolBeta deployed at: 0xaA7e46855e0506401214c9b1C35f3d889669609e

Transaction sent: 0xf967a778129b19287d180826a4647262e539735bac1e3590d210e29608f52cf3
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 6
  RageChaosEngine.initialize confirmed (unauthorized) Block: 59 Gas used: 24845 (0.21%)

```

```

Transaction sent: 0xa62ce76a9e9cb65aaf89f1cd1b614b7bf13c0cc9f6eba674a9ffd26614317452
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
  RageChaosEngine.initialize confirmed Block: 60 Gas used: 72244 (0.60%)

Transaction sent: 0x6679a745564de8d8845caa3009745dd74929b9ed38e9dellf6a8435144e77fa2
  Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 1
  RageChaosEngine.initialize confirmed (alreadyInitialized) Block: 61 Gas used: 24830 (0.21%)

tests/test_rage_chaos.py::test_initialize PASSED

```

```

tests/test_rage_chaos.py::test_withdraw RUNNING
Transaction sent: 0x13248985c51dd97329b3e23b000665ef7d5b0ee102ef8ca263e43a75933659c6
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 45
WETH9.constructor confirmed Block: 62 Gas used: 471464 (3.93%)
WETH9 deployed at: 0xa1910C6e0Fbd0E38cf8AbAeC5D1C1D539F81CC63

Transaction sent: 0x517a34e8ea4344dacc7fda72dbeb12ce87bbb8c399674b8d09d175e61f7a01b9
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 46
ERC20Mock.constructor confirmed Block: 63 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x8BE16B874F47371C42498b499837Ed87D7661E86

Transaction sent: 0xaf6913a5c02499b0c80a3ba5d8d466dea72e7eef3b4284bd8cd744c40f69ca92
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 47
Rage.constructor confirmed Block: 64 Gas used: 891747 (7.43%)
Rage deployed at: 0x1aa96efd28002541E830CB7f60e473AA24e31F9A

Transaction sent: 0x3ealf5e1338ba7e08d8cfefba6213bfc6a5437460de44e96abd070a0d5a4eb06
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 48
MockUniswapV3Pool.constructor confirmed Block: 65 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x8b1B4407240Ce2EE9779858af841Ec59F545838B

Transaction sent: 0x78a70ebe13177cb9f2171a193739104eb91150b522df8b02b0ae885a6592d3c5
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 49
MockUniswapV3Pool.constructor confirmed Block: 66 Gas used: 312774 (2.61%)
MockUniswapV3Pool deployed at: 0xc6D563d5c2243b27e7294511063f563ED701EA2C

Transaction sent: 0x11756e4ced0750a486d624f65253ba79928de6566297681ea457a7e34bd9698f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 50
UniswapV3Factory.constructor confirmed Block: 67 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0xd537bF4b795b7D078d5F4bAf7017e3ce836081DE

Transaction sent: 0x1a40dd985a9fd99bb24879f52246504f4d3546420444e5f3e957fe6f879f367c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 51
MockNonfungiblePositionManager.constructor confirmed Block: 68 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0x70bC6D873D110Da59a9c49E7485a27B0F605E5db

Transaction sent: 0x566ef764eb5e091cd889fece61fce4a4e0c9827cf15fdf7a644d2e84b41b5a4d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 52
MockNonfungiblePositionManager.mint confirmed Block: 69 Gas used: 121180 (1.01%)

Transaction sent: 0x25ea3a050cb2068e1e33e9db3e254f21cccecb1cd5718d98b120f88bc60a0a325
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 53
RageChaosEngine.constructor confirmed Block: 70 Gas used: 2668691 (22.24%)
RageChaosEngine deployed at: 0xb291024F4b2E4C3767A96a844566a8e93cC828C5

Transaction sent: 0x50f014f5155b04b61dc9a8a0de3c6dba8bf5f01099c9a15c612e681cabb5e776
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 7
RageChaosEngine.withdrawEth confirmed (unauthorized) Block: 71 Gas used: 22335 (0.19%)

Transaction sent: 0x43110df8950e484cf992d9553298adb76db3c97c91117ac2d692d248c05974de
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 6
RageChaosEngine.withdrawEth confirmed Block: 72 Gas used: 23059 (0.19%)

Transaction sent: 0xbd27032de78537de6ec77b4b066c85b9c4477e27de532ae53f851307e1cf004b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 8
RageChaosEngine.withdrawToken confirmed (unauthorized) Block: 73 Gas used: 22729 (0.19%)

Transaction sent: 0xe4a4deb9b22e147a09d1f3d786ba3442ab6b7ccb5512f4a2628451ab0a94cd3d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 7
RageChaosEngine.withdrawToken confirmed (noTokenBalance) Block: 74 Gas used: 25044 (0.21%)

Transaction sent: 0x4337c3a0e2d1ae2471759d43dfff3acea31aeb587785f7d93f675d57c45bc057
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 54
ERC20Mock.mint confirmed Block: 75 Gas used: 50545 (0.42%)

Transaction sent: 0x26a163e40c9b468217191c029c2890679967498e8e8958fbcef5ba4be34c3824
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 8
RageChaosEngine.withdrawToken confirmed Block: 76 Gas used: 40246 (0.34%)

tests/test_rage_chaos.py::test_withdraw PASSED

```

```

tests/test_rage_chaos.py::test_transfer_ownership RUNNING
Transaction sent: 0xff3288a775fa94c64aedf953720cde2d785f1632d3496a8f45fcce8546dff82f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 55
WETH9.constructor confirmed Block: 77 Gas used: 471464 (3.93%)
WETH9 deployed at: 0xEFDE7eC452f9A203559896F64267809E248D044f

Transaction sent: 0x1999ec3f242cfc8e2e6ecb643fac5227ad111aa4d77989a8ec964f13b5be7ea9
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 56
ERC20Mock.constructor confirmed Block: 78 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x93F6bA0E6DcB1Ec0F1aB080Be31e025d6e64Ad97

Transaction sent: 0xfc2ffe424856bb335bf634d9c28c19b186de65f6e68652ab605227f3172ecdaf
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 57
Rage.constructor confirmed Block: 79 Gas used: 891747 (7.43%)
Rage deployed at: 0x342216ff4b4D6899D0E6535D6E50b60b71654bc4

Transaction sent: 0xd46d520a8fc52c44d6360275db2a22389905b7ef922d83bc85fa923ad71e517d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 58
MockUniswapV3Pool.constructor confirmed Block: 80 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0xa5659Fa683b71C907cd346397c694b93aFF40b51

Transaction sent: 0xalcfcab6ef7a6db8859e8fc20cdfb16cf54b2538ad232367567f2e809f1a15e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 59
MockUniswapV3Pool.constructor confirmed Block: 81 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x286677F2b204be093A8Bee3e35074352b3392438

Transaction sent: 0x4b579f7dabb0aa2ceb7507a5b627eb4fbc31198b86b3c3f51caeddfce42dcd6
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 60
UniswapV3Factory.constructor confirmed Block: 82 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0xA83Fad7514839b12C0bAcA71e0A7cc63D2Ff1941

Transaction sent: 0x5c52ef73c4b4ff5b30a3dc06f10500d32b704781109e67fdf56f695b81d60ed2
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 61
MockNonfungiblePositionManager.constructor confirmed Block: 83 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0x648334435888bb5E44D890a7B319981c48b4847d

Transaction sent: 0xb60d6f274fa3087858d09ae5e973428b08faea3838867de9ff784d170671c1ab
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 62
MockNonfungiblePositionManager.mint confirmed Block: 84 Gas used: 121192 (1.01%)

Transaction sent: 0xc3b68e0cf30234f9341f804b3e2bd285e2d216c0eb23f054f72a7465810d06cc
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 63
RageChaosEngine.constructor confirmed Block: 85 Gas used: 2668703 (22.24%)
RageChaosEngine deployed at: 0x0764A8da0FCAa127b31E13b79E9a273Fb582bF26

Transaction sent: 0x6799cca817d5fcb5c86e6bcbcfedf5e531d5d9678a993760b36f58e8e93e27ee
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 64
RageSwapper.constructor confirmed Block: 86 Gas used: 5165269 (43.04%)
RageSwapper deployed at: 0x2acC1AbFdC76E48e49c91f55512066840D6555Dd

Transaction sent: 0x5ff7659f138884387ab85cd88daa97deda3285ca1dc96f353e836ed67670af45
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 65
RageOracle.constructor confirmed Block: 87 Gas used: 4509270 (37.58%)
RageOracle deployed at: 0xFd87ceEa79b211268Fb182a48E43644543c08709

Transaction sent: 0xba2c9fad3affbb99cb88061ed91eff1b1f622e825547397d1ec9f80235c34183
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 66
RageOptionNftBeta.constructor confirmed Block: 88 Gas used: 1919717 (16.00%)
RageOptionNftBeta deployed at: 0x7e4ED6273177126c48503850a526845bed16E747

Transaction sent: 0xcfb2b2700b7548b9078a757310a4ed0ae48989977a8fa57512576ee5c5b3d6aec
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 67
RageBuyingProtocolBeta.constructor confirmed Block: 89 Gas used: 5655302 (47.13%)
RageBuyingProtocolBeta deployed at: 0xA2ea57c9C7ED08D48F5d92Dd774b6Fe55465d86f

Transaction sent: 0x3df017322132917bb366790428ea0e3db6ea93e0f627131100d29cc08e571bba
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 9
RageChaosEngine.transferOwnership confirmed (unauthorized) Block: 90 Gas used: 29667 (0.25%)

```

```
Transaction sent: 0x181ac412704a8ad9df81f628db72934ccalc1eb4f284ec8a57c927e316dd3f5f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 2
RageChaosEngine.transferOwnership confirmed (invalidOwnerAddress) Block: 91 Gas used: 28648 (0.24%)

Transaction sent: 0x679d64025d35309e2dac6810d35bf0f2b7e94427f7f2f388dd1347de787c053f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 3
RageChaosEngine.initialize confirmed Block: 92 Gas used: 72244 (0.60%)

Transaction sent: 0x60b8a561b8a13115735a5b4592f14e6c93558fb9fa0203aed97404fad085d5db
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 4
RageChaosEngine.transferOwnership confirmed (ownerCannotBeRbp) Block: 93 Gas used: 29752 (0.25%)

Transaction sent: 0xf7fd860ee6cf0318bf3c2455971739d77e61b7a275e263ffe3c132b520c5e7d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 5
RageChaosEngine.transferOwnership confirmed (ownerCannotBeAutomator) Block: 94 Gas used: 30601 (0.26%)

Transaction sent: 0x760d1b167151e3c8b5e23325ddd98f10b4a5f4dc9ee7f6fde39599061154af7f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 6
RageChaosEngine.transferOwnership confirmed (ownersMustBeDifferent) Block: 95 Gas used: 31483 (0.26%)

Transaction sent: 0xa046a16cd71d5c192023142181c8cf05dcfba5eb01231a6fe180620b0080d58
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
RageChaosEngine.transferOwnership confirmed (ownersMustBeDifferent) Block: 96 Gas used: 31501 (0.26%)

Transaction sent: 0xe98b07e6e936ab3fdb43eec06dad1d750d82b5286c695215c85fc838dd29857c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 7
RageChaosEngine.transferOwnership confirmed Block: 97 Gas used: 35370 (0.29%)

tests/test_rage_chaos.py::test_transfer_ownership PASSED
```



```

tests/test_rage_chaos.py::test_set_buying_proto RUNNING
Transaction sent: 0xc2484d7b463bb0d6f1bdf36604d42d1d1eef28cca62c8822a63aa7c5cb93d7b8
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 68
WETH9.constructor confirmed Block: 98 Gas used: 471464 (3.93%)
WETH9 deployed at: 0x6a21483001cFb6FAf0D5346C1e781337425D7138

Transaction sent: 0xe876f9f3e8fccfa6c600d18f3a3867e07b46ed3fa039686229495fa26fa80e86
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 69
ERC20Mock.constructor confirmed Block: 99 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x7BcBd50CBE1d42458D8C5b2397C68d18198E8066

Transaction sent: 0x32ad1f40357984c51d246d435f46b5559b7579ef2e68393a309725a0e38ce509
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 70
Rage.constructor confirmed Block: 100 Gas used: 891747 (7.43%)
Rage deployed at: 0xaE4059E2E23958f627eF75d2467343F4d8838709

Transaction sent: 0x544fcfbf87c63e1298787ad17447c9ecccaddcfecbf9ec75d11021c784e21251
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 71
MockUniswapV3Pool.constructor confirmed Block: 101 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x47a27C9881B5C5eC78c38F88EE70D0A5eb68633C

Transaction sent: 0x2a73f651d7d99fb346166fe8deb0e5e83ef8c14b517e39d3bda2e68a3ef16516
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 72
MockUniswapV3Pool.constructor confirmed Block: 102 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x63Cf24e22bbFAA28316Cca9b179eEC7810b8037B

Transaction sent: 0xac87d023559165f4577de189fab84c73edf13818925ef339561043d2d46f23d3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 73
UniswapV3Factory.constructor confirmed Block: 103 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0x8d841305cA5f2852135dC2B969ba6084A32D4700

Transaction sent: 0x87fcbdcdee3d1be91ba90b370cd255139003fb3145a0a8e8e7b9506c0f979ae7
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 74
MockNonfungiblePositionManager.constructor confirmed Block: 104 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0x795af5f6648254fFAA8fCd35ff03a4dCEe5054c9

Transaction sent: 0x7998063720f4937f0fa62845e9c65c939de6db69cf942f713b285d3cfb91f74e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 75
MockNonfungiblePositionManager.mint confirmed Block: 105 Gas used: 121192 (1.01%)

Transaction sent: 0xd13c063e8603e6ffa0c20c1f5c8d3d0fe9ce01c4031b7e57c5a094264188fa5b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 76
RageChaosEngine.constructor confirmed Block: 106 Gas used: 2668691 (22.24%)
RageChaosEngine deployed at: 0x2E51a008587eadCF8495841Bf3FC9f4F706d0028

Transaction sent: 0xcdf7d5c9e2e1246957db0cd7f7f807d5be523343d3e38b40fae9d3cdd8daf7c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 77
RageSwapper.constructor confirmed Block: 107 Gas used: 5165257 (43.04%)
RageSwapper deployed at: 0x6057028AEb3086440A01577fcD18C5eC77305c47

Transaction sent: 0x82f8c656a3347e314b1e31481ecff3b38de849359ec6443bdae2c7dbd59ba19f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 78
RageOracle.constructor confirmed Block: 108 Gas used: 4509270 (37.58%)
RageOracle deployed at: 0xe25EDE8b52d4DE741Bd61c30060a003f0F1151A5

Transaction sent: 0x3451aa946fa7ffa84eb12226c6d742e88f61df2bc17aec4107e382c8eb7f3df8
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 79
RageOptionNftBeta.constructor confirmed Block: 109 Gas used: 1919705 (16.00%)
RageOptionNftBeta deployed at: 0xc859A0721d3EF2449556a85753B177Ac37bb3666

Transaction sent: 0xb27b46c7c4be54b9cd71eb938e40d4b4030b9a3a3e4eca8b1ba55bd5a7ce32f0
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 80
RageBuyingProtocolBeta.constructor confirmed Block: 110 Gas used: 5655278 (47.13%)
RageBuyingProtocolBeta deployed at: 0xfADA48d21d03c18FA2511f84Ca81a83c5Cfd0c90

Transaction sent: 0x1d9b75e6438f3240f218b0f9b56765daf71a20eb9a56acb26f38f6af40f9f309
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 10
RageChaosEngine.setRageBuyingProtocol confirmed (unauthorized) Block: 111 Gas used: 29616 (0.25%)

```

```

Transaction sent: 0xbbc916ed5b8c7c876fc6e9df468db05af1ecf300dff9ab8e7781a7b44cf9fd57
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 8
RageChaosEngine.setRageBuyingProtocol confirmed (invalidRbpAddress) Block: 112 Gas used: 28585 (0.24%)

Transaction sent: 0x9cd42b4d0a9f9bc021663363e50cbfd8ca97d1348c59847a0b4fb59b6032ceal
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 9
RageChaosEngine.setRageBuyingProtocol confirmed (ownerCannotBeRbp) Block: 113 Gas used: 29729 (0.25%)

Transaction sent: 0x13fb21d8089b53b9884611e5d4fef093e0a1342f10568e5c44a4115be37c9f13
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 10
RageChaosEngine.setRageBuyingProtocol confirmed Block: 114 Gas used: 70292 (0.59%)

tests/test_rage_chaos.py::test_set_buying_proto PASSED

```



```

tests/test_rage_chaos.py::test_set_automator RUNNING
Transaction sent: 0x846ae6857bca5b46bb231d64bfaab9a17bfa7e8cc84230a519656b19328182ce
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 81
WETH9.constructor confirmed Block: 115 Gas used: 471464 (3.93%)
WETH9 deployed at: 0x741D86951a8b99159be52644e60de7826033Ee44

Transaction sent: 0xc54382268351c041b2aea407d6685e71a543425756d4c3e8958d7dca3236fd22
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 82
ERC20Mock.constructor confirmed Block: 116 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x953d98708E446dc9257d900C7cFc34Db2969A57

Transaction sent: 0x47f06ec0aed2e5891a68a00fc561147ea04a4f386046cd314b8ff744cc6fce7
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 83
Rage.constructor confirmed Block: 117 Gas used: 891747 (7.43%)
Rage deployed at: 0x4f53C468a3AaC1e528C2AB15f180777D083d642E

Transaction sent: 0x046faf2e69a52c82aab126e014da7c65ab514b60c9c801005e1d35e3a58a8421
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 84
MockUniswapV3Pool.constructor confirmed Block: 118 Gas used: 312774 (2.61%)
MockUniswapV3Pool deployed at: 0x5F589a4528EF32ae54Fbc46968505867cEFbc537

Transaction sent: 0xedd58e46d52fdbc675d1bd2665f2f077f9e92c6858f2ea3a019d953cc39a5a78
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 85
MockUniswapV3Pool.constructor confirmed Block: 119 Gas used: 312774 (2.61%)
MockUniswapV3Pool deployed at: 0x548A761038f133140659d8a5a4375b479D7c5582

Transaction sent: 0x0a365f4574a9c360e1411894d9aaa32777190b5fcb143138f719a29a39a318f9
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 86
UniswapV3Factory.constructor confirmed Block: 120 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0x5F6F5B3b1b4d2B448bcbffA9b92168469ab2e142

Transaction sent: 0x4c9f90ed8d6bb2218be8c432d2ed61571694daa9649347c9c6b365348fe9f27c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 87
MockNonfungiblePositionManager.constructor confirmed Block: 121 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0x6A547C98A4363b71F74472aD25595F4677a8b948

Transaction sent: 0xeb77311e11a152c226f3b64d4d06694fd35cf0e92266700cc44615b08c60ca9b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 88
MockNonfungiblePositionManager.mint confirmed Block: 122 Gas used: 121180 (1.01%)

Transaction sent: 0xd561630a039411b82faca80635120a6cb33794a92ff52ce8e831d4bb6f5786b8
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 89
RageChaosEngine.constructor confirmed Block: 123 Gas used: 2668691 (22.24%)
RageChaosEngine deployed at: 0x12429A7C54a315b8325Ae6105417b048EE258a27

Transaction sent: 0x19bbbe15a7649228970b71d1771773075e63c4bc64cd3c90b0ccc2d23969e0fe
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 11
RageChaosEngine.setAutomator confirmed (unauthorized) Block: 124 Gas used: 25483 (0.21%)

Transaction sent: 0x2ab6afb9c731bd3553f3cbdb1fe71d81ca6bcf9b8b71a5fb2f17f8e57fd86376
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 11
RageChaosEngine.setAutomator confirmed (invalidAutomatorAddress) Block: 125 Gas used: 25527 (0.21%)

Transaction sent: 0x20ee4f8917f28cddfc135ac053867f75659c5e665e996c1e80fd2819f17abe57
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 12
RageChaosEngine.setAutomator confirmed Block: 126 Gas used: 33161 (0.28%)
tests/test_rage_chaos.py::test_set_automator PASSED

```

```

tests/test_rage_chaos.py::test_set_configs RUNNING
Transaction sent: 0xdf7fb1bb10968c212a749050e8848d84ccaef0e1cc833f76f15ba5ac5db416c6a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 90
WETH9.constructor confirmed Block: 127 Gas used: 471464 (3.93%)
WETH9 deployed at: 0xe372E377902f1872Aaa458989B229974896022D2

Transaction sent: 0xc4425796d2fc03e45031da5b1a663b576d3cfcf3ab20e4a46af22bcfbab1d29f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 91
ERC20Mock.constructor confirmed Block: 128 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x062B7dAb37A00F0671Ad9D2Af2950CaC947FC35b

Transaction sent: 0xa379d76b6531fc07219c4351d31b6b0215a65c956abaeb0b816c3367e275b6fe
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 92
Rage.constructor confirmed Block: 129 Gas used: 891747 (7.43%)
Rage deployed at: 0xB001D701541D96399c338C9D66D4AE7bCAd878a2

Transaction sent: 0x3d2518362d7f20d1ddee7d0133bfad2d4d287cce6809d5c1eb98732b7830fe5
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 93
MockUniswapV3Pool.constructor confirmed Block: 130 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x3b3F002a26fCbdd72F5884baF7F3833a2420FFf

Transaction sent: 0x8ef42ff96eebd70898ee535c440fc7d43ebe4826cb2ad05a64a2bc6d1be4bc4f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 94
MockUniswapV3Pool.constructor confirmed Block: 131 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x9E2341550D43dac781A6c36fbdcb3590bd18C08

Transaction sent: 0xbfcfe75ec3957190dd2ef9f35b63679e8c8d17c6c1529971e5f59be1395c71cc
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 95
UniswapV3Factory.constructor confirmed Block: 132 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0xE67cf20A24c85f0417070668123102247a6cfc1

Transaction sent: 0x054276b25497f289671054cd9abf658a6db4088622ad5797bba45ae7f6cce6db
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 96
MockNonfungiblePositionManager.constructor confirmed Block: 133 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0xFE78A958963c5138223378669EdaF764477abd6E

Transaction sent: 0xc3997c496068774f8d75888abd0ba71136eff44064c2b98d5d5e55517a676f66
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 97
MockNonfungiblePositionManager.mint confirmed Block: 134 Gas used: 121192 (1.01%)

Transaction sent: 0x02ef01621e9da34ada9bce0768dc615fbdccc6af3dba23ff99e2d04e941a99b4
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 98
RageChaosEngine.constructor confirmed Block: 135 Gas used: 2668691 (22.24%)
RageChaosEngine deployed at: 0xc44163a3C9a048c7EdC2A74299146173eaF436AF

Transaction sent: 0x8803917f77375ee2c402141533525b66874554c96d1c8b2a2477684e04c266a8
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 12
RageChaosEngine.setConfigs confirmed (unauthorized) Block: 136 Gas used: 23870 (0.20%)

Transaction sent: 0x3c1fe7f76b62f7e4db82d62526688e41dc3a397e0617c42a4f88091b740a3f5e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 9
RageChaosEngine.setConfigs confirmed (invalidRageCrushMode) Block: 137 Gas used: 44766 (0.37%)

Transaction sent: 0xf4c938a58ad3b4178e47c8c9a5f5e6055f21fc919c90cc7b396482bf0993c0e5
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 10
RageChaosEngine.setConfigs confirmed (invalidRageInterval) Block: 138 Gas used: 44763 (0.37%)

Transaction sent: 0x4051f8679194f17477fa3b04e85fcd0d73d331bca2c2964469f6341be9843987
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 11
RageChaosEngine.setConfigs confirmed (invalidLiquiditySlippage) Block: 139 Gas used: 44847 (0.37%)

Transaction sent: 0xdbea326a8cebf128f8bf7d089f30452c752750b2d737288f731db8c3f4a751
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 12
RageChaosEngine.setConfigs confirmed Block: 140 Gas used: 49086 (0.41%)
tests/test_rage_chaos.py::test_set_configs PASSED

```

```

tests/test_rage_option_nft.py::test_base_uri RUNNING
Transaction sent: 0xa90eed9f465abafe8728d6051a11411a6695265e721453f942349ed75e72be6e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 99
WETH9.constructor confirmed Block: 141 Gas used: 471464 (3.93%)
WETH9 deployed at: 0xa2c283f1108596a876e47af4e487Ec509d6c58F

Transaction sent: 0x0d60f2d28b9a5ad6657b99d6a00e967d42062c7fd45be937778c7ebb0f36d4fa
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 100
ERC20Mock.constructor confirmed Block: 142 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x2711D43E997528654E6925861Aec015E1F635c8b

Transaction sent: 0x61a2b33d066d9a4e984eabe34011cd70e51bf435cd1d067ba671397f38937fa7
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 101
Rage.constructor confirmed Block: 143 Gas used: 891747 (7.43%)
Rage deployed at: 0x2847751f6a9902c2A86e3C319901aCaC184f81b6

Transaction sent: 0x0080bc558cac575f9abc4116f717660de66e01790958e060074078649e1c80bd
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 102
MockUniswapV3Pool.constructor confirmed Block: 144 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0xc9D90614566289F796Eb9272a5ed3788e311eC38

Transaction sent: 0x828d5fe8d931aef3f157f58bdb6a2a01d1ece666bbd83f2fd3a6dd0a0f1bd7d3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 103
UniswapV3Factory.constructor confirmed Block: 145 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0xb836484F58733Eb4254dbf20889a31303488Ef5b

Transaction sent: 0x1eb18a8662b7eadd99bfc88a73dc802b4890510cf6b197b4e48c363d4994feb2
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 104
MockNonfungiblePositionManager.constructor confirmed Block: 146 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0xA671b18548aF6elc298b50950c047E9964721076

Transaction sent: 0x325bcbdb637945ee4146072803211b36607471527bd5b249a83f543d56feeff4a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 105
MockNonfungiblePositionManager.mint confirmed Block: 147 Gas used: 121192 (1.01%)

Transaction sent: 0x905b1367a38adfc729909204e53cd373a45453552835e0d3d25e60c2cb4d2374
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 106
RageChaosEngine.constructor confirmed Block: 148 Gas used: 2668703 (22.24%)
RageChaosEngine deployed at: 0x588C2BA3e918a7e52e08F06Cae73f3CEB7a5a0bd

Transaction sent: 0xa80684ffdc781da9cd9b9d7de78985b12abf04270856f4d226565618028ae0af
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 107
RageOptionNftBeta.constructor confirmed (invalidRceAddress) Block: 149 Gas used: 320428 (2.67%)

Transaction sent: 0xdada0ebc503445c9df72c2f06c493e538a51748b30c493231dbfed21a5555be6
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 108
RageOptionNftBeta.constructor confirmed Block: 150 Gas used: 1919717 (16.00%)
RageOptionNftBeta deployed at: 0xd16C4788AD6073a8f870F3627fBF0b124022B68

Transaction sent: 0xfdbc35dfde8a2ff19eb778d57f77c310d2b23147fb35ac614300fa3f81696163
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 13
RageOptionNftBeta.setBaseURI confirmed (unauthorized) Block: 151 Gas used: 30703 (0.26%)

Transaction sent: 0x86fbbc194e46832fcf45f957809b59c15f076b75700bdb197935dfc7d647d135
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 13
RageOptionNftBeta.setBaseURI confirmed Block: 152 Gas used: 24795 (0.21%)

tests/test_rage_option_nft.py::test_base_uri PASSED

```

```

tests/test_rage_option_nft.py::test_mint RUNNING
Transaction sent: 0x0ae5652e79d9afa98ccc78891a7b6a7b2baacb2d21fbeat57301887d04ecfaf1
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 109
WETH9.constructor confirmed Block: 153 Gas used: 471464 (3.93%)
WETH9 deployed at: 0x81737042d2c7056b88d3E7d55e54A9a27b39d5f2

Transaction sent: 0x3478ec93c0f8dfd5a84d926e28306ce831691039010d9e9ba30a72da4bcdae2b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 110
ERC20Mock.constructor confirmed Block: 154 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x411C993ae056C99FeFA390F488c12cD394969203

Transaction sent: 0xa00a12f63774ae59f702d66ef4043271d29bf869b0f43aa4f3643f3a755d7531
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 111
Rage.constructor confirmed Block: 155 Gas used: 891747 (7.43%)
Rage deployed at: 0x2e1172240ba2a47Cec8f1AbF98E13C4CE304e507

Transaction sent: 0x99ed04a72fcbbfc2acb4739479ce93d86b90fa64fbb95d07971bef7a760685a8
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 112
MockUniswapV3Pool.constructor confirmed Block: 156 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0xD340b8572E87BF699463e63e389508c7D5f3e2C5

Transaction sent: 0x1ac626137e7d3118c3723eb62321e48cc8e834c1536933c024c9a83394a5c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 113
UniswapV3Factory.constructor confirmed Block: 157 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0x0f9c7a55c687ec9869e71706029e4489D8b77c98

Transaction sent: 0x8b10916b81678be307a312804cd803fc0f40fbfab50ccdde44a513cb058a4e0
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 114
MockNonfungiblePositionManager.constructor confirmed Block: 158 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0x980C27c38e4283dEEDf183b1740463164dae547A

Transaction sent: 0x4e266175e83f443481ff917971a69dba7c8e01902bc0379b2aa3602b3234d620
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 115
MockNonfungiblePositionManager.mint confirmed Block: 159 Gas used: 121192 (1.01%)

Transaction sent: 0xe047764e4736e376f480276f4b83578acca8ce2675205ac8b2484789e4152de8
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 116
RageChaosEngine.constructor confirmed Block: 160 Gas used: 2668703 (22.24%)
RageChaosEngine deployed at: 0x2FAED346Cbe219ee50d0f79D5C76687CAAC50948

Transaction sent: 0xc6a82c0d8d1308f9f0922d3950aa7b66db094cad116e5b2d6bc4c98fb847bb9e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 117
RageOptionNftBeta.constructor confirmed Block: 161 Gas used: 1919717 (16.00%)
RageOptionNftBeta deployed at: 0xdc4F91D8182A55dC67D3D7022B204504f0F09f26

Transaction sent: 0x85991042cc61207d2ecb849065912694b94e33f607ea4fd75d43ab61b94d13e3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 118
RageOptionNftBeta.mint confirmed (unauthorized) Block: 162 Gas used: 30388 (0.25%)

Transaction sent: 0xe1db1db3766f420fd92ac4564e8d4a429943a11d801b4a5d6570d5196f826d42
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 119
RageOptionNftBeta.mint confirmed (invalidRecipient) Block: 163 Gas used: 30200 (0.25%)

Transaction sent: 0xee30904d810a9a1b758b2cbbbe6a5c59522734a1ab78cee648d0f3b046cec13a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 120
RageOptionNftBeta.mint confirmed Block: 164 Gas used: 94377 (0.79%)

Transaction sent: 0xca340e85247f4bela82d93e9ab5c3ba62b1bc22470c8445b6190fb90ee02ed03
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 121
RageOptionNftBeta.mint confirmed (ERC721: token already minted) Block: 165 Gas used: 31545 (0.26%)

Transaction sent: 0x9fd43a0dd6e4b1f0920f39cf57df05d42b0d7036b95f48e6c5bad13530a9e545
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 122
RageOptionNftBeta.mint confirmed Block: 166 Gas used: 79365 (0.66%)

tests/test_rage_option_nft.py::test_mint PASSED

```

```

tests/test_rage_option_nft.py::test_burn RUNNING
Transaction sent: 0x4ccd25126c6ea732045df0f5fbbc279767a23bc1ac57ba74966ae66325c45dd7
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 118
WETH9.constructor confirmed Block: 167 Gas used: 471464 (3.93%)
WETH9 deployed at: 0xAcfbcF193f38f08d648864922C89fe1C9408292F

Transaction sent: 0xa6a2ca6550fe45d1f94f5e10425d2ced3acc203e85c31c25695b2df6849d015a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 119
ERC20Mock.constructor confirmed Block: 168 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x7A2B1fE507B80C9ebd863083267b01887860A91B

Transaction sent: 0x01ee14ef5d753df5570cf695732b7494f491cbb6629dfc783bff2a92b8e0185f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 120
Rage.constructor confirmed Block: 169 Gas used: 891747 (7.43%)
Rage deployed at: 0x0E435107E9e057F1cea11EE01043170E914f917e

Transaction sent: 0xe7d283c314c3841daeeaa2b42671489384606748dd22dbc3ff151f211c0b6e639
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 121
MockUniswapV3Pool.constructor confirmed Block: 170 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0xc647CaD7165308D6B87F06b2912a0295f924CEb9

Transaction sent: 0x01c517be56b8ae4fd4381b33d1b1f46d7308335cc983d7ef9b336c7ceb39ad97
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 122
UniswapV3Factory.constructor confirmed Block: 171 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0x6313a418fabBF349D71Aa34eb9FD0066f0e578cA

Transaction sent: 0xcfc346eaf957505717d63fc4b746d651651261d49e6e3b9f8150472afd74fd667
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 123
MockNonfungiblePositionManager.constructor confirmed Block: 172 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0x17e2c178c0Def0d990E4b33930Cb50F85f0ca2564

Transaction sent: 0x569aa1bcfcf11a43af84c3f293c72e7b6882232e8a1b060d17cd4d1fb8d346da
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 124
MockNonfungiblePositionManager.mint confirmed Block: 173 Gas used: 121192 (1.01%)

Transaction sent: 0x0bde87abd06e8bf644201a09f1727e021f4ab3894fb069920dcff9e39701df60
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 125
RageChaosEngine.constructor confirmed Block: 174 Gas used: 2668691 (22.24%)
RageChaosEngine deployed at: 0xc5f608bfe3d89194E2e38E77506C6656c530990f

Transaction sent: 0xc667cab75186d0ff4b0a93a2668adc1b24c8974c7a062583ef8080cab0b52a6a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 126
RageOptionNftBeta.constructor confirmed Block: 175 Gas used: 1919717 (16.00%)
RageOptionNftBeta deployed at: 0xB841Eb7A00C0A8382094A37fA30B8323421B7784

Transaction sent: 0x836cfbeb7b5549f1afba4a04829f2238309d349ffc85709e47622d6ae384a1ed
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 15
RageOptionNftBeta.burn confirmed (unauthorized) Block: 176 Gas used: 29991 (0.25%)

Transaction sent: 0x74cdd36a0517e6aa09d93f7bc753e5c254e2e74a80048ed5611d722d5fcbf845
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 4
RageOptionNftBeta.burn confirmed (tokenNotFound) Block: 177 Gas used: 30939 (0.26%)

Transaction sent: 0x08181731d3dda448592ea1a07e88541009d6c1f6de10b29b4ddae9dfe790c5fa
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 5
RageOptionNftBeta.mint confirmed Block: 178 Gas used: 94377 (0.79%)

Transaction sent: 0xd0bbcc21c1e96d2158b2e68a94e3558b8a501ebfd0515fa58953ef47578c31a3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 6
RageOptionNftBeta.burn confirmed Block: 179 Gas used: 27423 (0.23%)

tests/test_rage_option_nft.py::test_burn PASSED

```

```

tests/test_rage_swapper.py::test_withdraw RUNNING
Transaction sent: 0x539415de3ed984106a4a62529a07f6fd15e3dd7a3ec6603clef51b909a219d4d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 127
WETH9.constructor confirmed Block: 180 Gas used: 471464 (3.93%)
WETH9 deployed at: 0xC07927a4D78baeF9A5053574422aa48E62E9850D

Transaction sent: 0x4a19782c0d67f458c5cfcecd99733bc668793c64640967d5a96ee462148fb7e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 128
ERC20Mock.constructor confirmed Block: 181 Gas used: 683611 (5.70%)
ERC20Mock deployed at: 0x237Ee74308d872F6150f52c2ac755853300a1fC3

Transaction sent: 0x7fc4cc0a0bda0933f0462f2b164d0e3b73f4ef604be0749e048052663a2789ae
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 129
Rage.constructor confirmed Block: 182 Gas used: 891747 (7.43%)
Rage deployed at: 0x81eE90A3D89f91fb8A27dbd3a9eB179c4E53A325

Transaction sent: 0x5c0afd21ad825db5250db9842de5b4acc7d4e650250dbc1d3b28ce7d4c17dc55
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 130
MockUniswapV3Pool.constructor confirmed Block: 183 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x68A9d1Da3eAA8767E41c9EDe1f8014180d0F8993

Transaction sent: 0x49eb14f070f0659a45f08f4e7c80c6fcb0a032166037185ddc5c14e9a03ee0b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 131
MockUniswapV3Pool.constructor confirmed Block: 184 Gas used: 312786 (2.61%)
MockUniswapV3Pool deployed at: 0x3495B2609795AddC5fA325eEeE901f1c2759847F

Transaction sent: 0xb6e74285c36621793a4876045639ce57fcd182dba2b66d05940f8881cb1041b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 132
UniswapV3Factory.constructor confirmed Block: 185 Gas used: 5421585 (45.18%)
UniswapV3Factory deployed at: 0x5Ae300612EF2E53B3317Eb07cD0a8822F20AE479

Transaction sent: 0x27ef21c5e116be852880b6eb49c2c0a5fb249ece25fb211c6ecc1cc23ee2d694
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 133
MockNonfungiblePositionManager.constructor confirmed Block: 186 Gas used: 561735 (4.68%)
MockNonfungiblePositionManager deployed at: 0xC3856a95966bC3c05aA9fA0ee48f8a899afd8851

Transaction sent: 0x53adee2f84400b589f197356d2dd51b3488461299de19da44dc05eac6f728d1f
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 134
MockNonfungiblePositionManager.mint confirmed Block: 187 Gas used: 121192 (1.01%)

Transaction sent: 0x2974cf59f6385a340c3865fe001437b969bb6d77d44fba0c96c160163ee52ae0
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 135
RageChaosEngine.constructor confirmed Block: 188 Gas used: 2668691 (22.24%)
RageChaosEngine deployed at: 0x58dE528eF1c4bECceA53975D39bE00dA848df157

Transaction sent: 0x9acf055661f38800ea10b439f6b40f6f30ec2baaaa22e988c7c4ed266d6353b9
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 136
RageSwapper.constructor confirmed Block: 189 Gas used: 5165257 (43.04%)
RageSwapper deployed at: 0x2347C310257cD88dE9e16CC108cb73F21336C60

Transaction sent: 0xb3c667a4b3df10b6e21c06af8c3798a57b0bccd73d100beaf19a7334a8a4103a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 16
RageSwapper.withdrawEth confirmed (unauthorized) Block: 190 Gas used: 23861 (0.20%)

Transaction sent: 0xc632fd7ce2434a093c6c52f0b8dbf1d58357530eb20f862427a5cfc159c476b5
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 14
RageSwapper.withdrawEth confirmed Block: 191 Gas used: 25891 (0.22%)

Transaction sent: 0xf0a681e2874d8d8b77772b0b2a69c49d2c00545f38441f86f23f2ab24bba8f9e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 17
RageSwapper.withdrawToken confirmed (unauthorized) Block: 192 Gas used: 24222 (0.20%)

Transaction sent: 0x9e42fe8128a7a3d2d18b72e8340477968de945d968a6589faa7fa4e81e213204
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 15
RageSwapper.withdrawToken confirmed (noTokenBalance) Block: 193 Gas used: 26502 (0.22%)

Transaction sent: 0x147ece7277d240920a4c937f267445052c2301df838ff1563ae13b0090803850
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 137
ERC20Mock.mint confirmed Block: 194 Gas used: 50545 (0.42%)

Transaction sent: 0xbdda1cee0c86c0990ac64d9353c836a66bc8905e2e2fac9cc2a3f713917b5d3c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 16
RageSwapper.withdrawToken confirmed Block: 195 Gas used: 43098 (0.36%)

tests/test_rage_swapper.py::test_withdraw PASSED

```

5.0 Annexes

Testing code:

Buy proto:

```
from brownie import (
    reverts,
)

from scripts.helpful_scripts import (
    ZERO_ADDRESS,
    DAY_TIMESTAMP,
    get_account,
)

from scripts.deploy import (
    deploy_weth,
    deploy_usdc,

    deploy_usdc_weth_pool,
    deploy_usdc_rage_pool,
    deploy_uniswap_v3_factory,
```

```

        deploy_position_manager,

        deploy_rage,

        deploy_swapper,

        deploy_rage_oracle,

        deploy_rage_buying_proto,

        deploy_rage_nft,

        deploy_chaos_engine,
    )

def test_withdraw(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    owner2 = get_account(8)

    owner3 = get_account(9)

    weth = deploy_weth(owner)

    usdc = deploy_usdc(owner)

    rage = deploy_rage(owner)

```



```

pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

factory = deploy_uniswap_v3_factory(owner)


# Deploy PositionManager

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

swapper = deploy_swapper(rage.address, pool_rage.address,
chaos_engine.address, usdc.address, weth.address, pool.address, owner)

oracle = deploy_rage_oracle(owner, rage.address, pool_rage.address)

nft = deploy_rage_nft(owner, chaos_engine.address)

buy_proto = deploy_rage_buying_proto(owner, chaos_engine.address,
rage.address, oracle.address, swapper.address, nft.address)


with reverts("unauthorized"):

    buy_proto.withdrawEth({"from": other})

buy_proto.withdrawEth({"from": "0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})


with reverts("unauthorized"):

    buy_proto.withdrawToken(usdc.address, 1e18, {"from": other})

```

```

    with reverts("invAmo"):

        buy_proto.withdrawToken(usdc.address, 0, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

    with reverts("insBal"):

        buy_proto.withdrawToken(usdc.address, 1e18, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

    usdc.mint(buy_proto.address, 1e18)

    tx = buy_proto.withdrawToken(usdc.address, 1e18, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

    assert tx.events['Transfer'][0]['from'] == buy_proto.address

    assert tx.events['Transfer'][0]['to'] ==
"0x815E7DE6BF3Fa334581De2b398BdDEBF3B71AE99"

    assert tx.events['Transfer'][0]['value'] == 1e18

def test_set_status(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    owner2 = get_account(8)

    owner3 = get_account(9)

    weth = deploy_weth(owner)

```

```

usdc = deploy_usdc(owner)

rage = deploy_rage(owner)

pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

factory = deploy_uniswap_v3_factory(owner)


# Deploy PositionManager

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

swapper = deploy_swapper(rage.address, pool_rage.address,
chaos_engine.address, usdc.address, weth.address, pool.address, owner)

oracle = deploy_rage_oracle(owner, rage.address, pool_rage.address)

nft = deploy_rage_nft(owner, chaos_engine.address)

buy_proto = deploy_rage_buying_proto(owner, chaos_engine.address,
rage.address, oracle.address, swapper.address, nft.address)

with reverts("unauthorized"):

    buy_proto.setStatus(0, {"from": other})

with reverts("invalidStatus"):

    buy_proto.setStatus(2, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

```

```
buy_proto.setStatus(1, {"from":  
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})
```

Rage:

```
from brownie import (  
    reverts,  
)  
  
from scripts.helpful_scripts import (  
    get_account,  
)  
  
from scripts.deploy import (  
    deploy_rage,  
)  
  
def test_mint(only_local):  
    # Arrange  
  
    owner = get_account(0)  
  
    other = get_account(1)  
  
    rage = deploy_rage(owner)
```

```

    with reverts("unauthorized"):

        rage.mint(other, 10e18, {"from": other})

    assert rage.balanceOf(other) == 0

    rage.mint(other, 10e18, {"from": owner})

    assert rage.balanceOf(other) == 10e18

def test_burn(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    rage = deploy_rage(owner)

    rage.mint(other, 10e18, {"from": owner})

    assert rage.balanceOf(other) == 10e18

    rage.burn(1e18, {"from": other})

    assert rage.balanceOf(other) == 9e18

def test_transfer_ownership(only_local):

    # Arrange

```

```

owner = get_account(0)

other = get_account(1)

rage = deploy_rage(owner)

with reverts("unauthorized"):

    rage.transferOwnership(other, {"from": other})

assert rage.owner() == owner

rage.transferOwnership(other, {"from":
"0xC2bBE86b900c072a4031247547c337aFf344AD90"})

assert rage.owner() == other

```

Rage Chaos:

```

from brownie import (

    reverts,

)

from scripts.helpful_scripts import (

    ZERO_ADDRESS,

    DAY_TIMESTAMP,

    get_account,

)

```

```
from scripts.deploy import (

    deploy_weth,

    deploy_usdc,

    deploy_usdc_weth_pool,

    deploy_usdc_rage_pool,

    deploy_uniswap_v3_factory,

    deploy_position_manager,

    deploy_rage,

    deploy_swapper,

    deploy_rage_oracle,

    deploy_rage_buying_proto,

    deploy_rage_nft,

    deploy_chaos_engine,

)

def test_initialize(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    owner2 = get_account(8)
```

```

owner3 = get_account(9)

weth = deploy_weth(owner)

usdc = deploy_usdc(owner)

rage = deploy_rage(owner)

pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

factory = deploy_uniswap_v3_factory(owner)

# Deploy PositionManager

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)

chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

swapper = deploy_swapper(rage.address, pool_rage.address,
chaos_engine.address, usdc.address, weth.address, pool.address, owner)

oracle = deploy_rage_oracle(owner, rage.address, pool_rage.address)

nft = deploy_rage_nft(owner, chaos_engine.address)

buy_proto = deploy_rage_buying_proto(owner, chaos_engine.address,
rage.address, oracle.address, swapper.address, nft.address)

with reverts("unauthorized"):

```



```

        chaos_engine.initialize(swapper.address, buy_proto.address, {"from":
other})

        chaos_engine.initialize(swapper.address, buy_proto.address, {"from": owner2})

        with reverts("alreadyInitialized"):

            chaos_engine.initialize(swapper.address, buy_proto.address, {"from":
owner2})

def test_withdraw(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    owner2 = get_account(8)

    owner3 = get_account(9)

    weth = deploy_weth(owner)

    usdc = deploy_usdc(owner)

    rage = deploy_rage(owner)

    pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

    pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

    factory = deploy_uniswap_v3_factory(owner)

    # Deploy PositionManager

```

```

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

with reverts("unauthorized"):

    chaos_engine.withdrawEth({"from": other})

    chaos_engine.withdrawEth({"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

with reverts("unauthorized"):

    chaos_engine.withdrawToken(usdc.address, {"from": other})

with reverts("noTokenBalance"):

    chaos_engine.withdrawToken(usdc.address, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

    usdc.mint(chaos_engine.address, 1e18)

    tx = chaos_engine.withdrawToken(usdc.address, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

    assert tx.events['Transfer'][0]['from'] == chaos_engine.address

    assert tx.events['Transfer'][0]['to'] ==
"0x507fbdE39ba40DA4Fc79426AD5E3C64944fE43d4"

    assert tx.events['Transfer'][0]['value'] == 1e18

def test_transfer_ownership(only_local):

```

```

# Arrange

owner = get_account(0)

other = get_account(1)

extra = get_account(2)

owner2 = get_account(8)

owner3 = get_account(9)


weth = deploy_weth(owner)

usdc = deploy_usdc(owner)

rage = deploy_rage(owner)

pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

factory = deploy_uniswap_v3_factory(owner)


# Deploy PositionManager

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

swapper = deploy_swapper(rage.address, pool_rage.address,
chaos_engine.address, usdc.address, weth.address, pool.address, owner)

```

```

oracle = deploy_rage_oracle(owner, rage.address, pool_rage.address)

nft = deploy_rage_nft(owner, chaos_engine.address)

buy_proto = deploy_rage_buying_proto(owner, chaos_engine.address,
rage.address, oracle.address, swapper.address, nft.address)

with reverts("unauthorized"):

    chaos_engine.transferOwnership(extra, {"from": other})

with reverts("invalidOwnerAddress"):

    chaos_engine.transferOwnership(ZERO_ADDRESS, {"from": owner2})

chaos_engine.initialize(swapper.address, buy_proto.address, {"from": owner2})

with reverts("ownerCannotBeRbp"):

    chaos_engine.transferOwnership(buy_proto.address, {"from": owner2})

with reverts("ownerCannotBeAutomator"):

chaos_engine.transferOwnership("0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020",
{"from": owner2})

with reverts("ownersMustBeDifferent"):

    chaos_engine.transferOwnership(owner3, {"from": owner2})

with reverts("ownersMustBeDifferent"):

    chaos_engine.transferOwnership(owner2, {"from": owner3})

tx = chaos_engine.transferOwnership(other, {"from": owner2})

```

```

assert tx.events['OwnershipTransferred'][0]['oldOwner'] == owner2

assert tx.events['OwnershipTransferred'][0]['newOwner'] == other

def test_set_buying_proto(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    owner2 = get_account(8)

    owner3 = get_account(9)

    weth = deploy_weth(owner)

    usdc = deploy_usdc(owner)

    rage = deploy_rage(owner)

    pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

    pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

    factory = deploy_uniswap_v3_factory(owner)

    # Deploy PositionManager

    position_manager = deploy_position_manager(owner)

    position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)

```

```

    chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
    usdc.address, position_manager.address, factory.address, pool.address)

    swapper = deploy_swapper(rage.address, pool_rage.address,
    chaos_engine.address, usdc.address, weth.address, pool.address, owner)

    oracle = deploy_rage_oracle(owner, rage.address, pool_rage.address)

    nft = deploy_rage_nft(owner, chaos_engine.address)

    buy_proto = deploy_rage_buying_proto(owner, chaos_engine.address,
    rage.address, oracle.address, swapper.address, nft.address)

    with reverts("unauthorized"):

        chaos_engine.setRageBuyingProtocol(buy_proto.address, {"from": other})

    with reverts("invalidRbpAddress"):

        chaos_engine.setRageBuyingProtocol(ZERO_ADDRESS, {"from": owner2})

    with reverts("ownerCannotBeRbp"):

        chaos_engine.setRageBuyingProtocol(owner3, {"from": owner2})

    tx = chaos_engine.setRageBuyingProtocol(buy_proto.address, {"from": owner2})

    assert tx.events['RageBuyingProtocolProposed'][0]['proposer'] == owner2

    assert tx.events['RageBuyingProtocolProposed'][0]['pendingRbp'] ==
    buy_proto.address

def test_set_automator(only_local):

    # Arrange

    owner = get_account(0)

```

```

other = get_account(1)

extra = get_account(2)

owner2 = get_account(8)

owner3 = get_account(9)


weth = deploy_weth(owner)

usdc = deploy_usdc(owner)

rage = deploy_rage(owner)

pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

factory = deploy_uniswap_v3_factory(owner)


# Deploy PositionManager

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

with reverts("unauthorized"):

    chaos_engine.setAutomator(other, {"from": other})

with reverts("invalidAutomatorAddress"):

    chaos_engine.setAutomator(owner2, {"from": owner2})

```

```

tx = chaos_engine.setAutomator(other, {"from": owner2})

assert tx.events['AutomatorSet'][0]['automator'] == other

def test_set_configs(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    owner2 = get_account(8)

    owner3 = get_account(9)

    weth = deploy_weth(owner)

    usdc = deploy_usdc(owner)

    rage = deploy_rage(owner)

    pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

    pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

    factory = deploy_uniswap_v3_factory(owner)

    # Deploy PositionManager

    position_manager = deploy_position_manager(owner)

    position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)

```



```

chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

with reverts("unauthorized"):

    chaos_engine.setConfigs(True, 0, DAY_TIMESTAMP, 1000, {"from": other})

with reverts("invalidRageCrushMode"):

    chaos_engine.setConfigs(True, 3, DAY_TIMESTAMP, 1000, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

with reverts("invalidRageInterval"):

    chaos_engine.setConfigs(True, 0, 0, 1000, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

with reverts("invalidLiquiditySlippage"):

    chaos_engine.setConfigs(True, 0, DAY_TIMESTAMP, 3000, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

tx = chaos_engine.setConfigs(True, 0, DAY_TIMESTAMP, 2500, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

assert tx.events['ConfigChanged'][0]['crushPublic'] == True

assert tx.events['ConfigChanged'][0]['crushMode'] == 0

assert tx.events['ConfigChanged'][0]['crushInterval'] == DAY_TIMESTAMP

assert tx.events['ConfigChanged'][0]['slippage'] == 2500

```

Rage Option NFT:

```

from brownie import (

    reverts,

)

```

```
from scripts.helpful_scripts import (

    ZERO_ADDRESS,

    get_account,

)
```

```
from scripts.deploy import (

    deploy_weth,

    deploy_usdc,

    deploy_usdc_weth_pool,

    deploy_uniswap_v3_factory,

    deploy_position_manager,

    deploy_rage,

    deploy_chaos_engine,

    deploy_rage_nft,

)
```

```
def test_base_uri(only_local):

    # Arrange

    owner = get_account(0)
```

```

other = get_account(1)

owner2 = get_account(8)

owner3 = get_account(9)


weth = deploy_weth(owner)

usdc = deploy_usdc(owner)

rage = deploy_rage(owner)

pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

factory = deploy_uniswap_v3_factory(owner)


# Deploy PositionManager

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)


with reverts("invalidRceAddress"):

    deploy_rage_nft(owner, ZERO_ADDRESS)


rage_nft = deploy_rage_nft(owner, chaos_engine.address)

with reverts("unauthorized"):

```

```

    rage_nft.setBaseURI("some_url", {"from": other})

    tx = rage_nft.setBaseURI("some_url", {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

    assert tx.events['BaseUriUpdated'][0]['newBaseURI'] == "some_url"

def test_mint(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    owner2 = get_account(8)

    owner3 = get_account(9)

    weth = deploy_weth(owner)

    usdc = deploy_usdc(owner)

    rage = deploy_rage(owner)

    pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

    factory = deploy_uniswap_v3_factory(owner)

    # Deploy PositionManager

    position_manager = deploy_position_manager(owner)

```

```

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)

chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

rage_nft = deploy_rage_nft(owner, chaos_engine.address)

with reverts("unauthorized"):

    rage_nft.mint(other, 1, {"from": other})

with reverts("invalidRecipient"):

    rage_nft.mint(ZERO_ADDRESS, 1, {"from": ZERO_ADDRESS})

tx = rage_nft.mint(other, 1, {"from": ZERO_ADDRESS})

assert tx.events['Transfer'][0]['from'] == ZERO_ADDRESS

assert tx.events['Transfer'][0]['to'] == other

assert tx.events['Transfer'][0]['tokenId'] == 1

with reverts("ERC721: token already minted"):

    rage_nft.mint(extra, 1, {"from": ZERO_ADDRESS})

tx = rage_nft.mint(extra, 2, {"from": ZERO_ADDRESS})

assert tx.events['Transfer'][0]['from'] == ZERO_ADDRESS

assert tx.events['Transfer'][0]['to'] == extra

assert tx.events['Transfer'][0]['tokenId'] == 2

```

```

def test_burn(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    owner2 = get_account(8)

    owner3 = get_account(9)


    weth = deploy_weth(owner)

    usdc = deploy_usdc(owner)

    rage = deploy_rage(owner)

    pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

    factory = deploy_uniswap_v3_factory(owner)


    # Deploy PositionManager

    position_manager = deploy_position_manager(owner)

    position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


    chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

    rage_nft = deploy_rage_nft(owner, chaos_engine.address)

    with reverts("unauthorized"):

```

```

    rage_nft.burn(1, {"from": other})

    with reverts("tokenNotFound"):

        rage_nft.burn(2, {"from": ZERO_ADDRESS})

    rage_nft.mint(other, 1, {"from": ZERO_ADDRESS})

    tx = rage_nft.burn(1, {"from": ZERO_ADDRESS})

    assert tx.events['Transfer'][0]['from'] == other

    assert tx.events['Transfer'][0]['to'] == ZERO_ADDRESS

    assert tx.events['Transfer'][0]['tokenId'] == 1

```

Rage Swapper:

```

from brownie import (
    reverts,
)

from scripts.helpful_scripts import (
    ZERO_ADDRESS,
    DAY_TIMESTAMP,
    get_account,
    get_timestamp,
    get_chain_number,
    increase_timestamp
)

```

```

from scripts.deploy import (

    deploy_weth,

    deploy_usdc,

    deploy_usdc_weth_pool,

    deploy_usdc_rage_pool,

    deploy_uniswap_v3_factory,

    deploy_position_manager,

    deploy_rage,

    deploy_chaos_engine,

    deploy_swapper,
)

def test_withdraw(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    owner2 = get_account(8)

    owner3 = get_account(9)

```



```

weth = deploy_weth(owner)

usdc = deploy_usdc(owner)

rage = deploy_rage(owner)

pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

factory = deploy_uniswap_v3_factory(owner)


# Deploy PositionManager

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

swapper = deploy_swapper(rage.address, pool_rage.address,
chaos_engine.address, usdc.address, weth.address, pool.address, owner)


with reverts("unauthorized"):

    swapper.withdrawEth({"from": other})

    swapper.withdrawEth({"from": "0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})


with reverts("unauthorized"):

```

```

        swapper.withdrawToken(usdc.address, {"from": other})

        with reverts("noTokenBalance"):

            swapper.withdrawToken(usdc.address, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

            usdc.mint(swapper.address, 1e18)

            tx = swapper.withdrawToken(usdc.address, {"from":
"0xCBe5a4103d4C7Ed5D73d9942101473C1Bc0A8020"})

            assert tx.events['Transfer'][0]['from'] == swapper.address

            assert tx.events['Transfer'][0]['to'] ==
"0x507fbdE39ba40DA4Fc79426AD5E3C64944fE43d4"

            assert tx.events['Transfer'][0]['value'] == 1e18

def test_swap(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    owner2 = get_account(8)

    owner3 = get_account(9)

    weth = deploy_weth(owner)

    usdc = deploy_usdc(owner)

    rage = deploy_rage(owner)

```

```

pool = deploy_usdc_weth_pool(usdc.address, weth.address, owner)

pool_rage = deploy_usdc_rage_pool(usdc.address, rage.address, owner)

factory = deploy_uniswap_v3_factory(owner)


# Deploy PositionManager

position_manager = deploy_position_manager(owner)

position_manager.mint(usdc.address, rage.address, 10_000, -600, 600, 1e18)


chaos_engine = deploy_chaos_engine(owner, rage.address, 1, owner2, owner3,
usdc.address, position_manager.address, factory.address, pool.address)

swapper = deploy_swapper(rage.address, pool_rage.address,
chaos_engine.address, usdc.address, weth.address, pool.address, owner)


with reverts("noEthSent"):

    swapper.swapEthForUsdc({"from": other})


usdc.mint(swapper.address, 1000e9)

weth.approve(pool.address, 10e18, {"from": swapper.address})

tx = swapper.swapEthForUsdc({"from": other, "value": 1e18})

assert tx.events['Deposit'][0]['dst'] == swapper.address

assert tx.events['Deposit'][0]['wad'] == 1e18

```

```
tx = swapper.swapEthForUsdc({"from": extra, "value": 0.5e18})

assert tx.events['Deposit'][0]['dst'] == swapper.address

assert tx.events['Deposit'][0]['wad'] == 0.5e18
```

6.0 Summary of the audit [PASS

Several high-medium severity gaps can disrupt user experience or disable features. With the recommended mitigations, the contract can achieve a robust security posture fit for production DeFi deployment. The audit result is **failed** until further review by the development team.

UPDATE: Following the development team's review, all critical vulnerabilities have been mitigated/reviewed, and the audit result is satisfactory.

Vulnerability Level	Total	Pending	Not Apply	Acknowledged	Resolved
High	3			1	2
Medium	7		1		6
Low	5			2	3
Informational	0				