# AUDIT REPORT

# SecureWise

## SMART CONTRACT AUDIT

https://github.com/securewise
https://t.me/securewise
https://securewise.info/

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SecureWise provides the smart contract audit of solidity. Audit and report are for informational purposes only and not, nor should be considered, as an endorsement to engage with, invest in, participate, provide an incentive, or disapprove, criticise, discourage, or purport to provide an opinion on any particular project or team.

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# Overview

**Token Name:** Carib DAO (CARIB)

**Methodology:** Automated Analysis, Manual Code Review

**Language:** Solidity

**Contract Address:** 0x9f8b8FE01b26957cf3dcd6FBd3675053bA2c02C8

**ContractLink:** https://bscscan.com/address/0x9f8b8FE01b26957cf3dcd6FBd3675053bA2c02C8

**Network:** Binance Smart Chain (BSC)

**Decimals:** 8

**Supply:** 100.000.000

**Website:** https://caribdao.com/

**Twitter:** https://twitter.com/caribdao

**Telegram:** https://t.me/caribdao

**Report Date:** October 18, 2022

# Quick Result

SecureWise has applied the automated and manual analysis of Smart Contract and were reviewed for common contract vulnerabilities and centralized exploits

## Owner Privileges

- ⚠ The owner can set the max tx amount "0"
- ⚠ The owner can set fees up to 100%
- ⚠ The owner can exclude accounts from fees
- ⚠ The owner can change swap settings

**Carib Dao (CARIB )** has succesfully **PASSED** the smart contract audit with **HIGH** **and** **LOW** severity issue

# Auditing Approach and Methodologies

SecureWise has performed starting with analyzing the code, issues, code quality, and libraries. Reviewed line-by-line by our team. Finding any potential issue like race conditions, transaction-ordering dependence, timestamp dependence, and denial of service attacks.

# Methodology

- Understanding the size, scope and functionality of your project's source code
- Manual review of code, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Testing and automated analysis of the Smart Contract to determine proper logic has been followed throughout the whole process
- Deploying the code on testnet using multiple live test
- Analyzing a program to determine the specific input that causes different parts of a program to execute its functions.
- Checking whether all the libraries used in the code are on the latest version.

# Goals

Smart Contract System is secure, resilient and working according to the specifications and without any vulnerabilities.

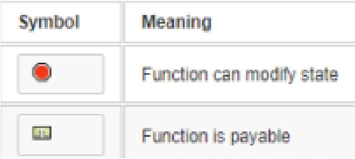
# Risk Classification

**High:** Exploits, vulnerabilities or errors that will certainly or probabilistically lead towards loss of funds, control, of the contract and its functions. Must be fixed as soon as possible.

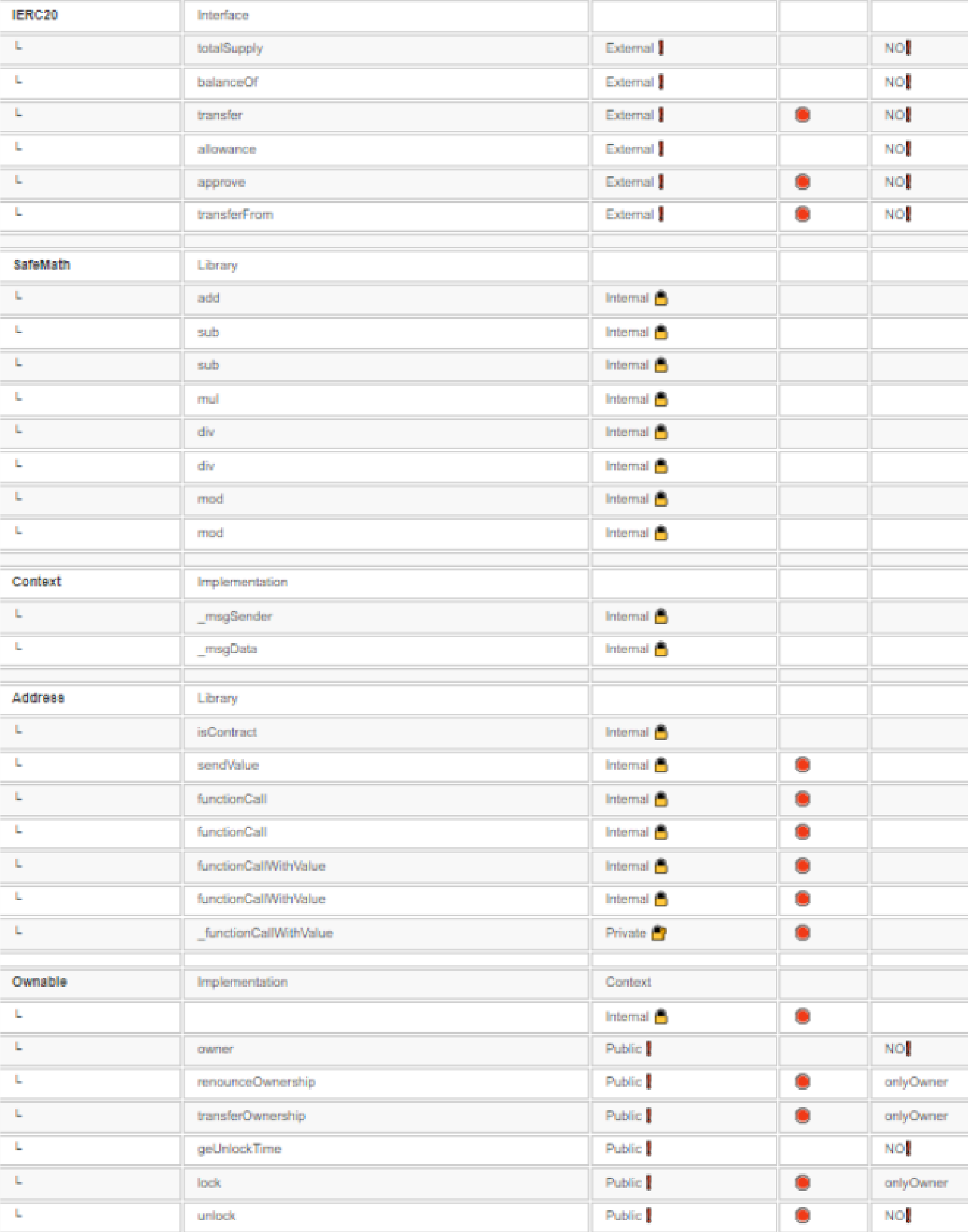
**Medium:** Bugs or issues with that may be subject to exploit, though their impact is somewhat limited. Must be fxed as soon as possible.

**Low:** Effects are minimal in isolation and do not pose a signifcant danger to the project or its users. Issues under this classifcation are recommended to be fixed nonetheless.

# Automated Analysis

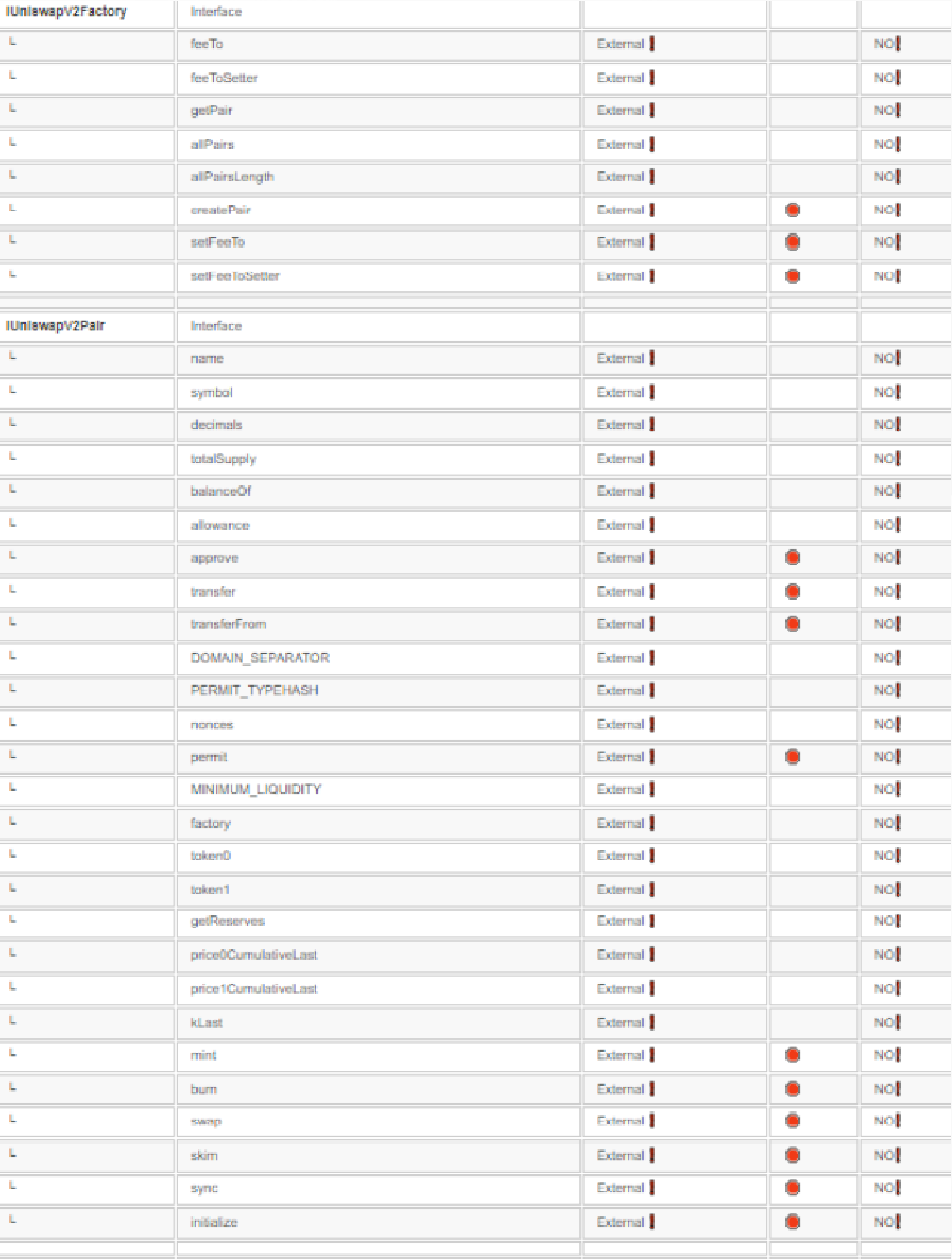


| Symbol | Meaning |
|---|---|
| ● | Function can modify state |
| 💵 | Function is payable |



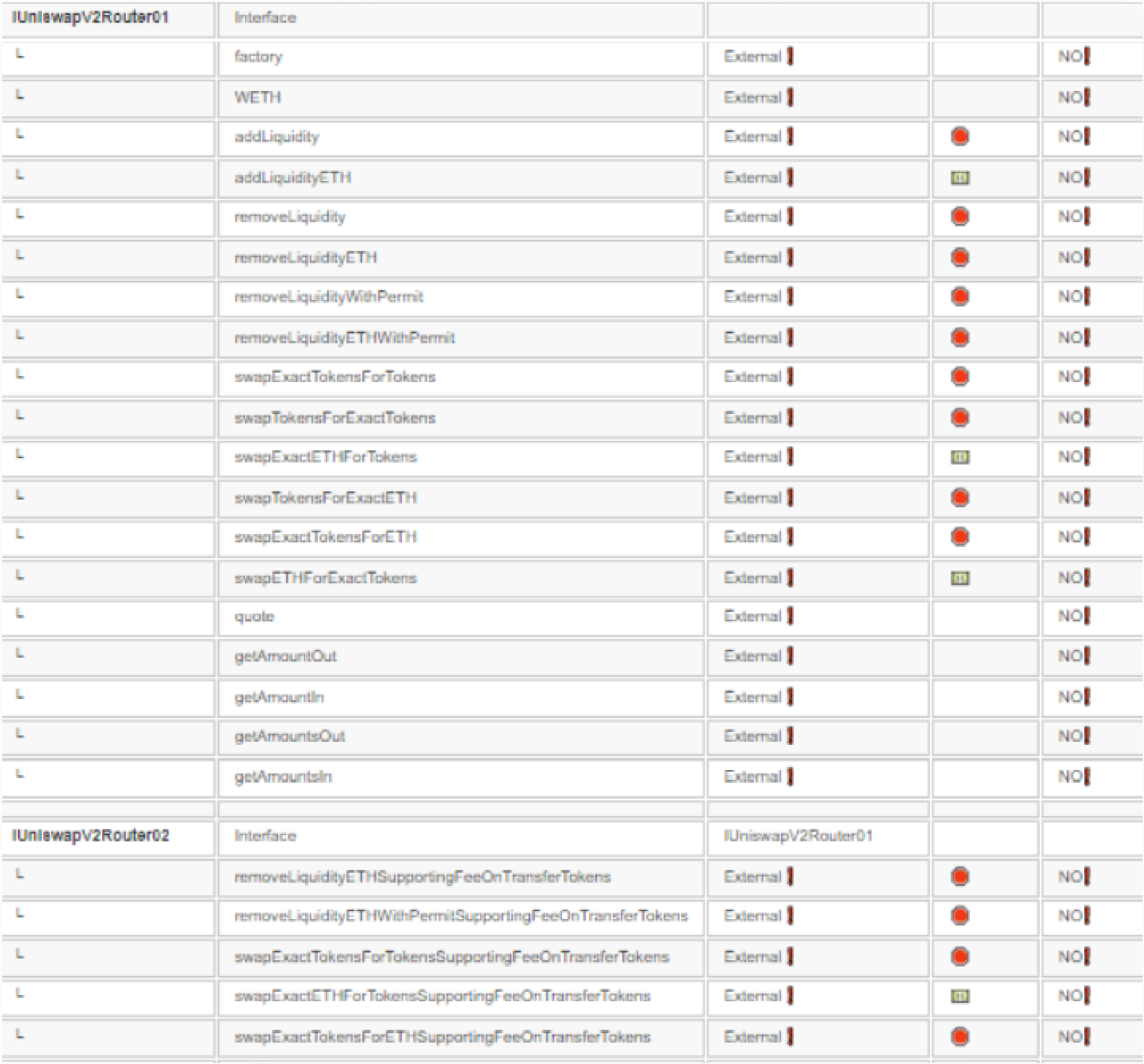
| | | | | |
|---|---|---|---|---|
| **IERC20** | Interface | | | |
| └ | totalSupply | External ❗ | | NO❗ |
| └ | balanceOf | External ❗ | | NO❗ |
| └ | transfer | External ❗ | ● | NO❗ |
| └ | allowance | External ❗ | | NO❗ |
| └ | approve | External ❗ | ● | NO❗ |
| └ | transferFrom | External ❗ | ● | NO❗ |
| | | | | |
| **SafeMath** | Library | | | |
| └ | add | Internal 🔒 | | |
| └ | sub | Internal 🔒 | | |
| └ | sub | Internal 🔒 | | |
| └ | mul | Internal 🔒 | | |
| └ | div | Internal 🔒 | | |
| └ | div | Internal 🔒 | | |
| └ | mod | Internal 🔒 | | |
| └ | mod | Internal 🔒 | | |
| | | | | |
| **Context** | Implementation | | | |
| └ | _msgSender | Internal 🔒 | | |
| └ | _msgData | Internal 🔒 | | |
| | | | | |
| **Address** | Library | | | |
| └ | isContract | Internal 🔒 | | |
| └ | sendValue | Internal 🔒 | ● | |
| └ | functionCall | Internal 🔒 | ● | |
| └ | functionCall | Internal 🔒 | ● | |
| └ | functionCallWithValue | Internal 🔒 | ● | |
| └ | functionCallWithValue | Internal 🔒 | ● | |
| └ | _functionCallWithValue | Private 🔐 | ● | |
| | | | | |
| **Ownable** | Implementation | Context | | |
| └ | | Internal 🔒 | ● | |
| └ | owner | Public ❗ | | NO❗ |
| └ | renounceOwnership | Public ❗ | ● | onlyOwner |
| └ | transferOwnership | Public ❗ | ● | onlyOwner |
| └ | geUnlockTime | Public ❗ | | NO❗ |
| └ | lock | Public ❗ | ● | onlyOwner |
| └ | unlock | Public ❗ | ● | NO❗ |

# Automated Analysis



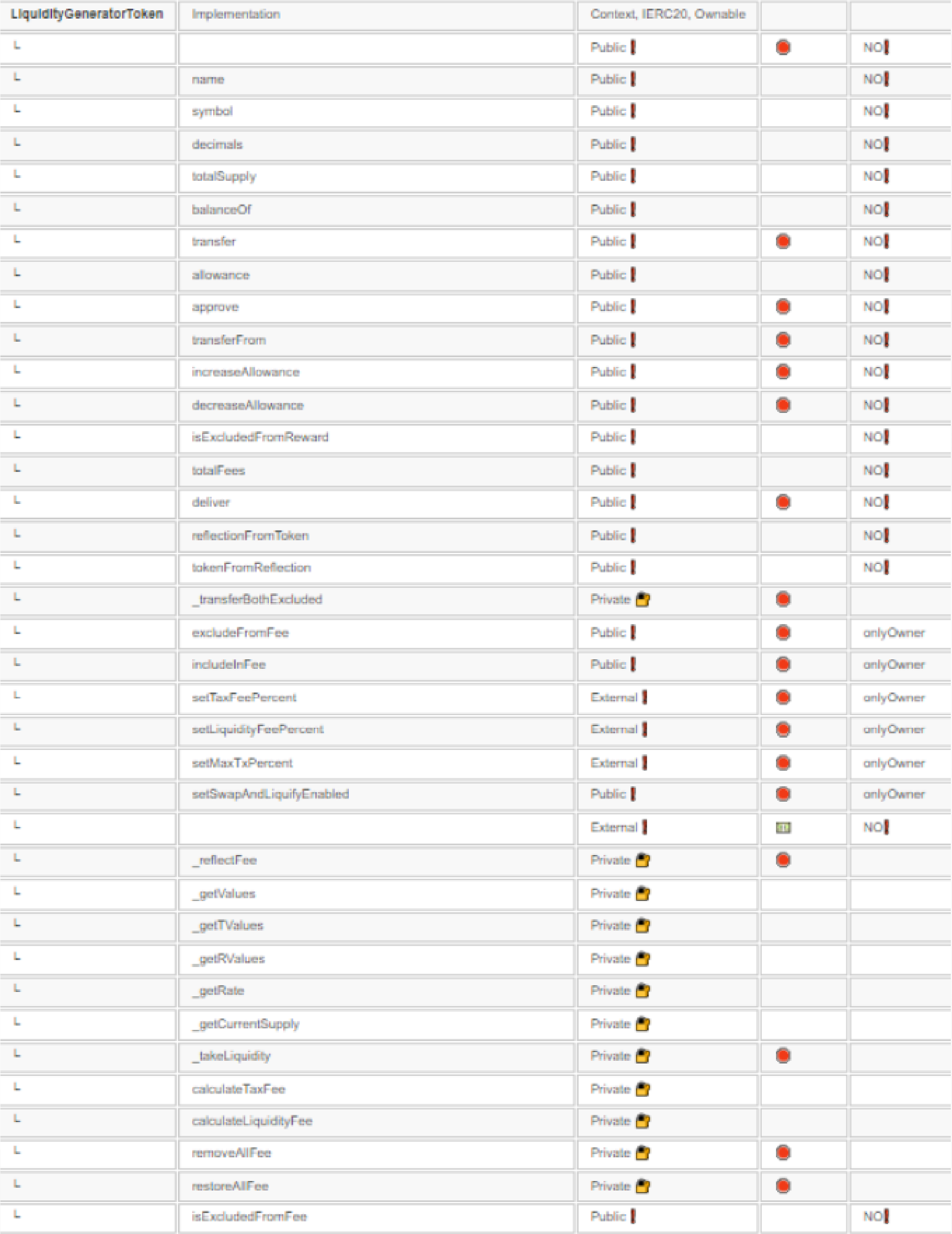
| | | | | |
|---|---|---|---|---|
| IUniswapV2Factory | Interface | | | |
| └ | feeTo | External ❗ | | NO❗ |
| └ | feeToSetter | External ❗ | | NO❗ |
| └ | getPair | External ❗ | | NO❗ |
| └ | allPairs | External ❗ | | NO❗ |
| └ | allPairsLength | External ❗ | | NO❗ |
| └ | createPair | External ❗ | 🛑 | NO❗ |
| └ | setFeeTo | External ❗ | 🛑 | NO❗ |
| └ | setFeeToSetter | External ❗ | 🛑 | NO❗ |
| | | | | |
| IUniswapV2Pair | Interface | | | |
| └ | name | External ❗ | | NO❗ |
| └ | symbol | External ❗ | | NO❗ |
| └ | decimals | External ❗ | | NO❗ |
| └ | totalSupply | External ❗ | | NO❗ |
| └ | balanceOf | External ❗ | | NO❗ |
| └ | allowance | External ❗ | | NO❗ |
| └ | approve | External ❗ | 🛑 | NO❗ |
| └ | transfer | External ❗ | 🛑 | NO❗ |
| └ | transferFrom | External ❗ | 🛑 | NO❗ |
| └ | DOMAIN_SEPARATOR | External ❗ | | NO❗ |
| └ | PERMIT_TYPEHASH | External ❗ | | NO❗ |
| └ | nonces | External ❗ | | NO❗ |
| └ | permit | External ❗ | 🛑 | NO❗ |
| └ | MINIMUM_LIQUIDITY | External ❗ | | NO❗ |
| └ | factory | External ❗ | | NO❗ |
| └ | token0 | External ❗ | | NO❗ |
| └ | token1 | External ❗ | | NO❗ |
| └ | getReserves | External ❗ | | NO❗ |
| └ | price0CumulativeLast | External ❗ | | NO❗ |
| └ | price1CumulativeLast | External ❗ | | NO❗ |
| └ | kLast | External ❗ | | NO❗ |
| └ | mint | External ❗ | 🛑 | NO❗ |
| └ | burn | External ❗ | 🛑 | NO❗ |
| └ | swap | External ❗ | 🛑 | NO❗ |
| └ | skim | External ❗ | 🛑 | NO❗ |
| └ | sync | External ❗ | 🛑 | NO❗ |
| └ | initialize | External ❗ | 🛑 | NO❗ |
| | | | | |

# Automated Analysis



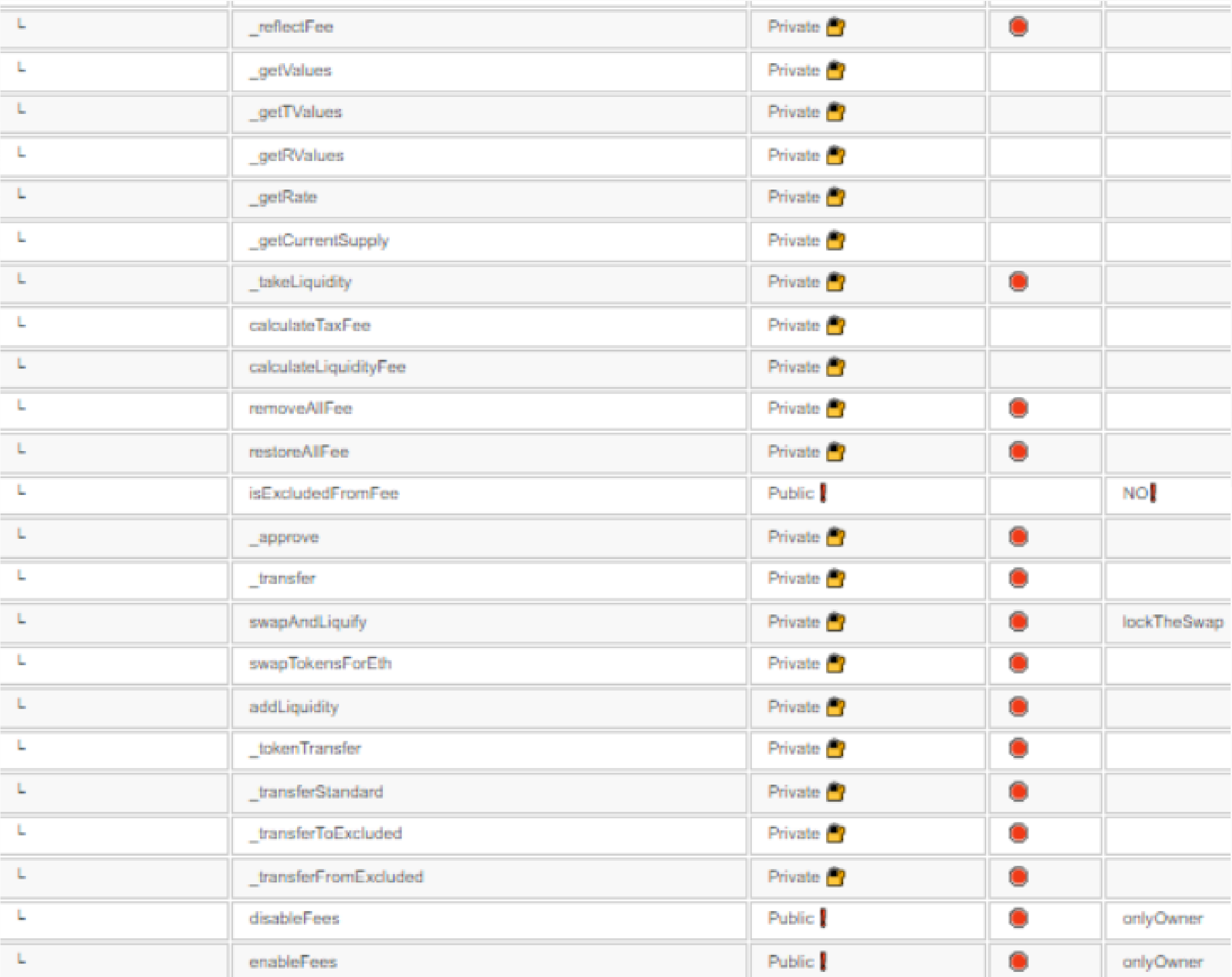
| | | | | |
|---|---|---|---|---|
| IUniswapV2Router01 | Interface | | | |
| └ | factory | External ❗ | | NO❗ |
| └ | WETH | External ❗ | | NO❗ |
| └ | addLiquidity | External ❗ | 🔴 | NO❗ |
| └ | addLiquidityETH | External ❗ | 💵 | NO❗ |
| └ | removeLiquidity | External ❗ | 🔴 | NO❗ |
| └ | removeLiquidityETH | External ❗ | 🔴 | NO❗ |
| └ | removeLiquidityWithPermit | External ❗ | 🔴 | NO❗ |
| └ | removeLiquidityETHWithPermit | External ❗ | 🔴 | NO❗ |
| └ | swapExactTokensForTokens | External ❗ | 🔴 | NO❗ |
| └ | swapTokensForExactTokens | External ❗ | 🔴 | NO❗ |
| └ | swapExactETHForTokens | External ❗ | 💵 | NO❗ |
| └ | swapTokensForExactETH | External ❗ | 🔴 | NO❗ |
| └ | swapExactTokensForETH | External ❗ | 🔴 | NO❗ |
| └ | swapETHForExactTokens | External ❗ | 💵 | NO❗ |
| └ | quote | External ❗ | | NO❗ |
| └ | getAmountOut | External ❗ | | NO❗ |
| └ | getAmountIn | External ❗ | | NO❗ |
| └ | getAmountsOut | External ❗ | | NO❗ |
| └ | getAmountsIn | External ❗ | | NO❗ |
| | | | | |
| IUniswapV2Router02 | Interface | IUniswapV2Router01 | | |
| └ | removeLiquidityETHSupportingFeeOnTransferTokens | External ❗ | 🔴 | NO❗ |
| └ | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External ❗ | 🔴 | NO❗ |
| └ | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ❗ | 🔴 | NO❗ |
| └ | swapExactETHForTokensSupportingFeeOnTransferTokens | External ❗ | 💵 | NO❗ |
| └ | swapExactTokensForETHSupportingFeeOnTransferTokens | External ❗ | 🔴 | NO❗ |

# Automated Analysis



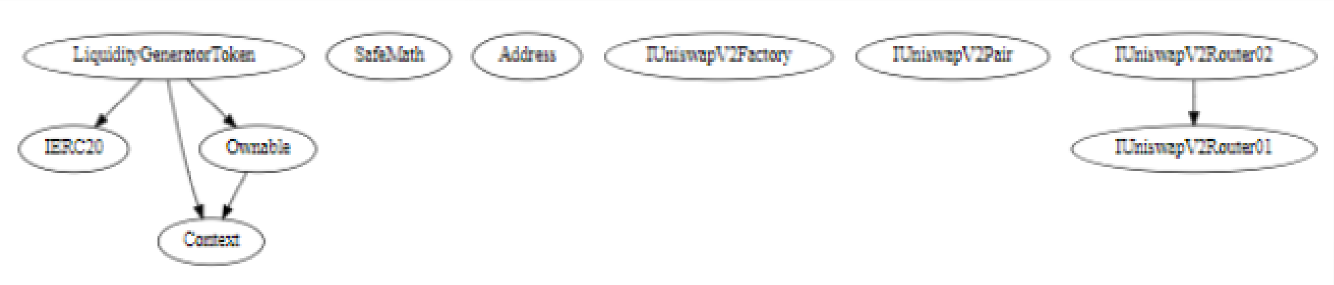
| **LiquidityGeneratorToken** | Implementation | Context, IERC20, Ownable | | |
|---|---|---|---|---|
| └ | | Public ❗ | 🛑 | NO❗ |
| └ | name | Public ❗ | | NO❗ |
| └ | symbol | Public ❗ | | NO❗ |
| └ | decimals | Public ❗ | | NO❗ |
| └ | totalSupply | Public ❗ | | NO❗ |
| └ | balanceOf | Public ❗ | | NO❗ |
| └ | transfer | Public ❗ | 🛑 | NO❗ |
| └ | allowance | Public ❗ | | NO❗ |
| └ | approve | Public ❗ | 🛑 | NO❗ |
| └ | transferFrom | Public ❗ | 🛑 | NO❗ |
| └ | increaseAllowance | Public ❗ | 🛑 | NO❗ |
| └ | decreaseAllowance | Public ❗ | 🛑 | NO❗ |
| └ | isExcludedFromReward | Public ❗ | | NO❗ |
| └ | totalFees | Public ❗ | | NO❗ |
| └ | deliver | Public ❗ | 🛑 | NO❗ |
| └ | reflectionFromToken | Public ❗ | | NO❗ |
| └ | tokenFromReflection | Public ❗ | | NO❗ |
| └ | _transferBothExcluded | Private 🔐 | 🛑 | |
| └ | excludeFromFee | Public ❗ | 🛑 | onlyOwner |
| └ | includeInFee | Public ❗ | 🛑 | onlyOwner |
| └ | setTaxFeePercent | External ❗ | 🛑 | onlyOwner |
| └ | setLiquidityFeePercent | External ❗ | 🛑 | onlyOwner |
| └ | setMaxTxPercent | External ❗ | 🛑 | onlyOwner |
| └ | setSwapAndLiquifyEnabled | Public ❗ | 🛑 | onlyOwner |
| └ | | External ❗ | 💵 | NO❗ |
| └ | _reflectFee | Private 🔐 | 🛑 | |
| └ | _getValues | Private 🔐 | | |
| └ | _getTValues | Private 🔐 | | |
| └ | _getRValues | Private 🔐 | | |
| └ | _getRate | Private 🔐 | | |
| └ | _getCurrentSupply | Private 🔐 | | |
| └ | _takeLiquidity | Private 🔐 | 🛑 | |
| └ | calculateTaxFee | Private 🔐 | | |
| └ | calculateLiquidityFee | Private 🔐 | | |
| └ | removeAllFee | Private 🔐 | 🛑 | |
| └ | restoreAllFee | Private 🔐 | 🛑 | |
| └ | isExcludedFromFee | Public ❗ | | NO❗ |

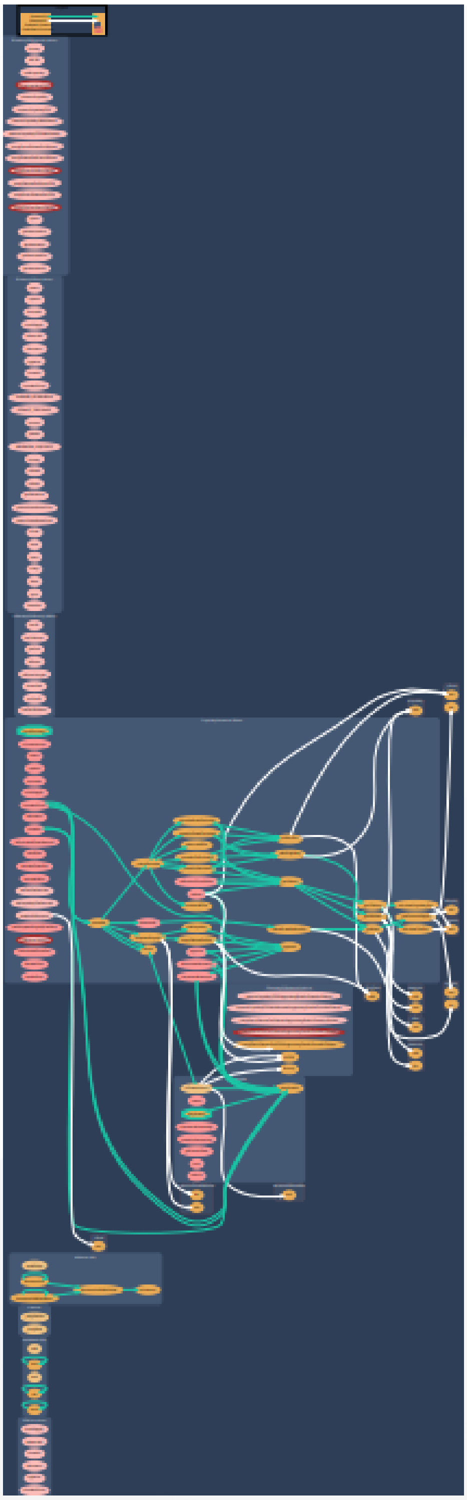
# Automated Analysis

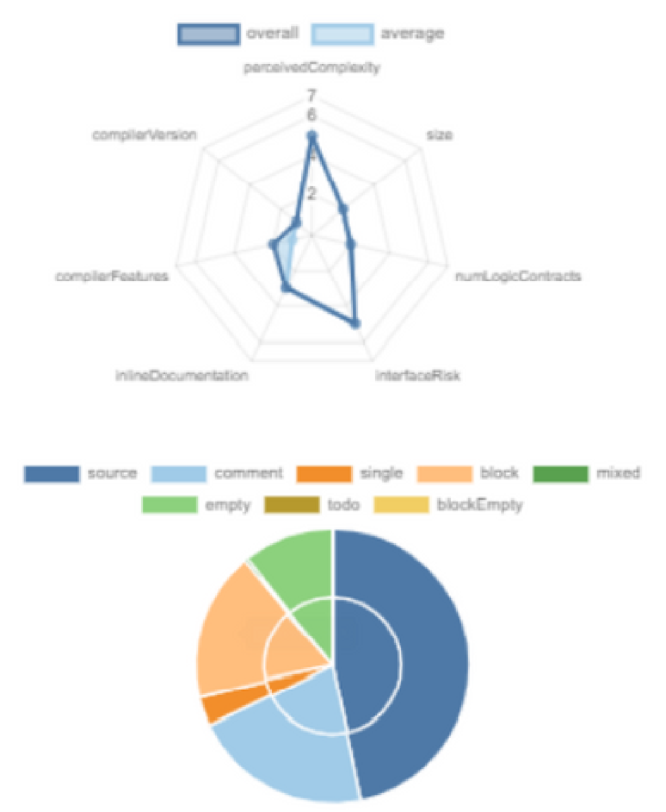


| | | | | |
|---|---|---|---|---|
| └ | _reflectFee | Private 🔐 | 🛑 | |
| └ | _getValues | Private 🔐 | | |
| └ | _getTValues | Private 🔐 | | |
| └ | _getRValues | Private 🔐 | | |
| └ | _getRate | Private 🔐 | | |
| └ | _getCurrentSupply | Private 🔐 | | |
| └ | _takeLiquidity | Private 🔐 | 🛑 | |
| └ | calculateTaxFee | Private 🔐 | | |
| └ | calculateLiquidityFee | Private 🔐 | | |
| └ | removeAllFee | Private 🔐 | 🛑 | |
| └ | restoreAllFee | Private 🔐 | 🛑 | |
| └ | isExcludedFromFee | Public ❗ | | NO❗ |
| └ | _approve | Private 🔐 | 🛑 | |
| └ | _transfer | Private 🔐 | 🛑 | |
| └ | swapAndLiquify | Private 🔐 | 🛑 | lockTheSwap |
| └ | swapTokensForEth | Private 🔐 | 🛑 | |
| └ | addLiquidity | Private 🔐 | 🛑 | |
| └ | _tokenTransfer | Private 🔐 | 🛑 | |
| └ | _transferStandard | Private 🔐 | 🛑 | |
| └ | _transferToExcluded | Private 🔐 | 🛑 | |
| └ | _transferFromExcluded | Private 🔐 | 🛑 | |
| └ | disableFees | Public ❗ | 🛑 | onlyOwner |
| └ | enableFees | Public ❗ | 🛑 | onlyOwner |

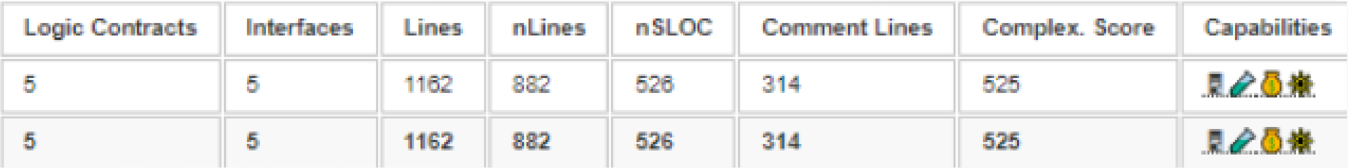
# Inheritance Graph



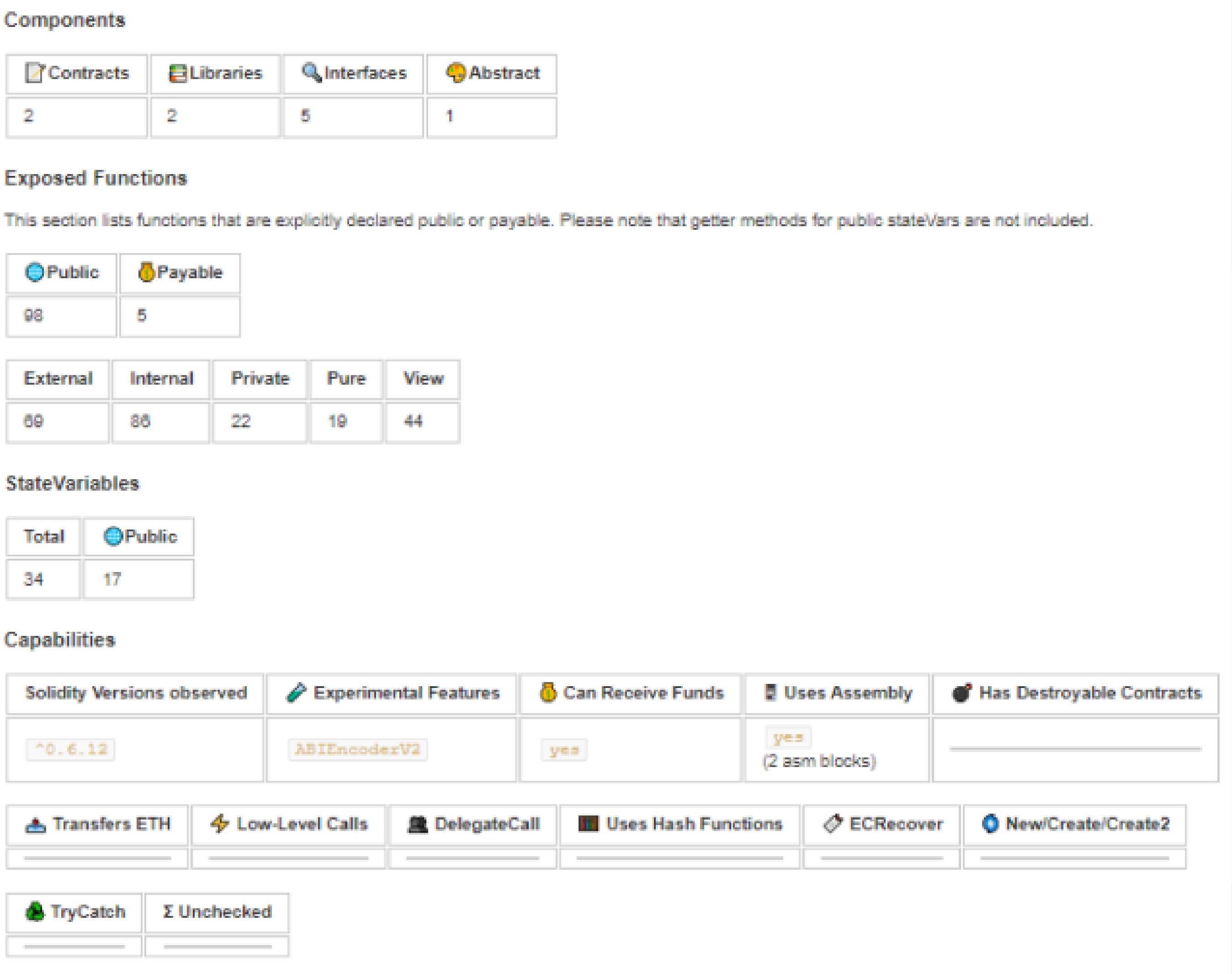




# Contract Summary



| Logic Contracts | Interfaces | Lines | nLines | nSLOC | Comment Lines | Complex. Score | Capabilities |
|---|---|---|---|---|---|---|---|
| 5 | 5 | 1162 | 882 | 526 | 314 | 525 | 🖥🧪💰🔆 |
| **5** | **5** | **1162** | **882** | **526** | **314** | **525** | 🖥🧪💰🔆 |



Components

| 📝Contracts | 📚Libraries | 🔍Interfaces | 🎨Abstract |
|---|---|---|---|
| 2 | 2 | 5 | 1 |

Exposed Functions

This section lists functions that are explicitly declared public or payable. Please note that getter methods for public stateVars are not included.

| 🌐Public | 💰Payable |
|---|---|
| 98 | 5 |

| External | Internal | Private | Pure | View |
|---|---|---|---|---|
| 69 | 86 | 22 | 19 | 44 |

StateVariables

| Total | 🌐Public |
|---|---|
| 34 | 17 |

Capabilities

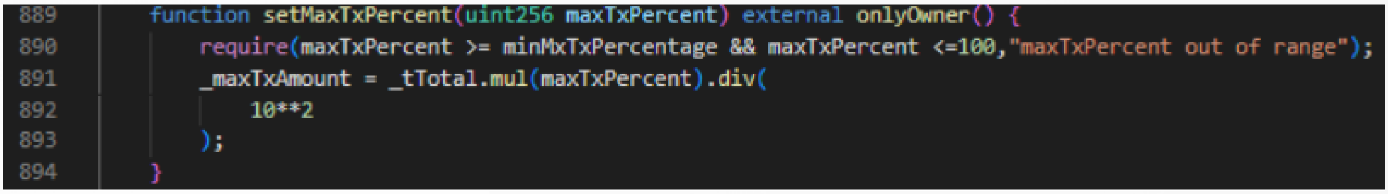
| Solidity Versions observed | 🧪 Experimental Features | 💰 Can Receive Funds | 🖥 Uses Assembly | 💣 Has Destroyable Contracts |
|---|---|---|---|---|
| `^0.6.12` | `ABIEncoderV2` | `yes` | `yes`<br>(2 asm blocks) | |

| 📤 Transfers ETH | ⚡ Low-Level Calls | 👥 DelegateCall | 🧮 Uses Hash Functions | 🔖 ECRecover | 🌀 New/Create/Create2 |
|---|---|---|---|---|---|
| | | | | | |

| ♻️ TryCatch | Σ Unchecked |
|---|---|
| | |

# Manual Review

### The owner can set the max tx amount "0"

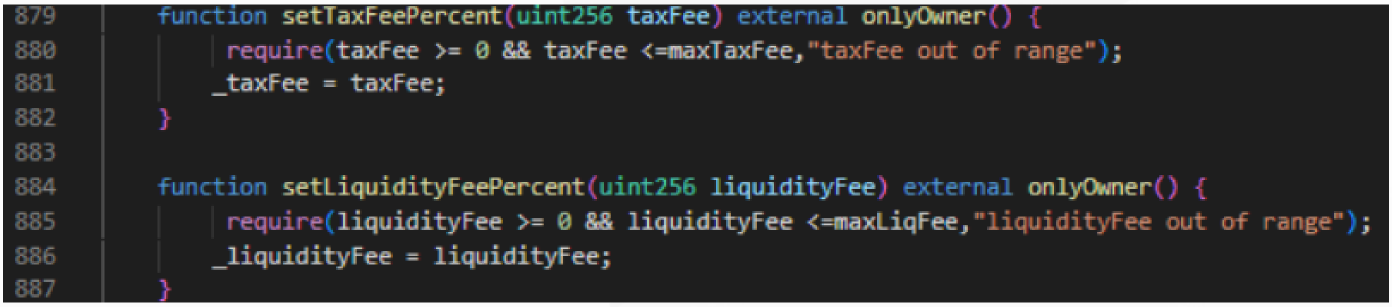


```
function setMaxTxPercent(uint256 maxTxPercent) external onlyOwner() {
    require(maxTxPercent >= minMxTxPercentage && maxTxPercent <=100,"maxTxPercent out of range");
    _maxTxAmount = _tTotal.mul(maxTxPercent).div(
        10**2
    );
}
```

#### Recommendation

These functions should be provided arbitrary limits, e.g., put a **require** check that allows maximum limit etc. if **set 0** these cause pause the trading.

### The owner can set fees up to 100%



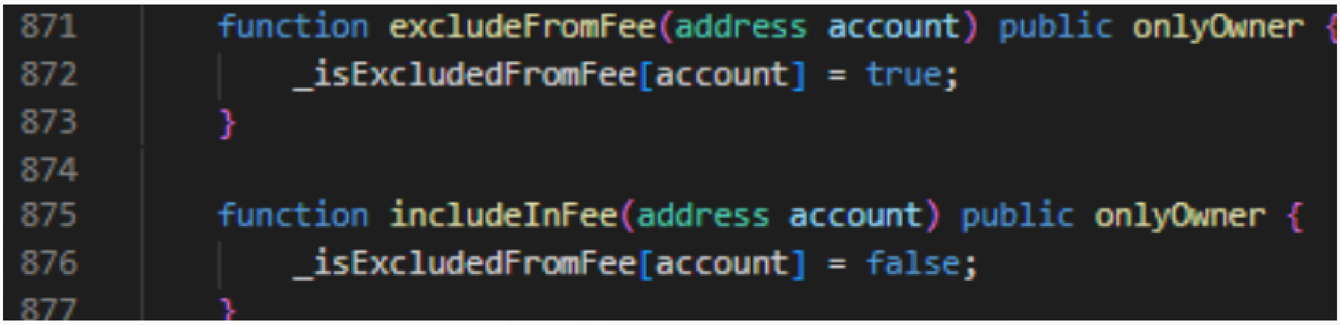
```
function setTaxFeePercent(uint256 taxFee) external onlyOwner() {
    require(taxFee >= 0 && taxFee <=maxTaxFee,"taxFee out of range");
    _taxFee = taxFee;
}

function setLiquidityFeePercent(uint256 liquidityFee) external onlyOwner() {
    require(liquidityFee >= 0 && liquidityFee <=maxLiqFee,"liquidityFee out of range");
    _liquidityFee = liquidityFee;
}
```

#### Recommendation

These functions should be provided arbitrary limits, e.g., put a **require** check that allows maximum limit etc.

# Manual Review

### The owner can exclude accounts from fees

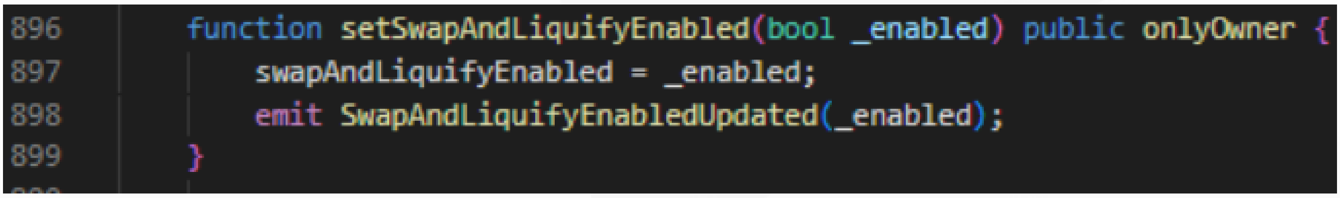


```
    function excludeFromFee(address account) public onlyOwner {
        _isExcludedFromFee[account] = true;
    }

    function includeInFee(address account) public onlyOwner {
        _isExcludedFromFee[account] = false;
    }
```

**Recommendation**

Authorizing privileged roles to exclude accounts from fees. These cause affect affect decentralization

### The owner can change swap settings



```
    function setSwapAndLiquifyEnabled(bool _enabled) public onlyOwner {
        swapAndLiquifyEnabled = _enabled;
        emit SwapAndLiquifyEnabledUpdated(_enabled);
    }
```

**Recommendation**

Authorizing privileged roles to enable or disable the swap.

AUDIT REPORT

# SecureWise

SMART CONTRACT AUDIT

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https://t.me/securewise
https://securewise.info/

SecureWise