Artificial Intelligence

Smart Contract Audit Report

SYSFIXED

18 Oct 2021

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Artificial Intelligence	AI	Binance Smart Chain

Addresses

Contract address	0x4c403b1879aa6a79ba9c599a393ccc5d9fd2e788
Contract deployer address	0xe1F0859D990b2BfcfAfbD0f48A8f30bCA15f86DC

Project Website

https://artificialintelligence.finance/

Codebase

https://bscscan.com/address/0x4c403b1879aa6a79ba9c599a393ccc5d9fd2e788#code

SUMMARY

The AI That Writes Code for You Think about artificial intelligence writing code for you and constantly learning. Describe the software and features you want to encode. The AI will serve you the software with hundreds of visual options in a few minutes. You won't have to pay a hundred thousand dollars for custom software. The AI will encode your software for just a couple of hundred dollars. You won't have to wait months. The AI writes code fast, securely, and without a mistake. More Details, More Perfect Results You can describe a hunter and birds. You can tell the AI that if the hunter gets a more successful shoot, the level will be more complex. Furthermore, you can define ad frequencies and placements with a simple interface. Select hundreds of different hunter and bird images and assign them advanced movements and effects on AI advanced interface. Tell how the birds will fall after being shot and all the other details. The AI will code all the details for you. If the AI doesn't find the code for your project, it will research and learn. Thus, AI will be more intelligent and more advanced after each project.

Contract Summary

Documentation Quality

Artificial Intelligence provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Artificial Intelligence with the discovery of several low issues.

Test Coverage

Test coverage of the project is 100% (Through Codebase)

Audit Findings Summary

- SWC-100 SWC-108 | Explicitly define visibility for all state variables on lines 708.
- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 104, 136, 159, 160, 195, 231, 450, 732, 732, 733, 733, 738, 738, 739, 739, 859, 861, 897, 897, 901, 901, 946, 970, 976 and 861.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 5.

- SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 860, 861, 861, 947, 947, 948, 949, 1079 and 1080.

CONCLUSION

We have audited the Artificial Intelligence project released on October 2021 to discover issues and identify potential security vulnerabilities in Artificial Intelligence Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides satisfactory results with low-risk issues.

The issues found in the Artificial Intelligence smart contract code do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are some arithmetic operation issues, a floating pragma is set, a state variable visibility is not set, and out-of-bounds array access which the index access expression can cause an exception in case of the use of an invalid array index value. The current pragma Solidity directive is ""^0.6.12"". Specifying a fixed compiler version is recommended to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code. It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	ISSUE FOUND
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	ISSUE FOUND
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE FOUND
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	PASS
Uninitialized Storage Pointer	SWC-109	Uninitialized local storage variables can point to unexpected storage locations in the contract.	PASS
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a failing assert statement.	ISSUE FOUND
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS

DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	PASS
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS
Insufficient Gas Griefing	SWC-126	Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	PASS
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS

Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	PASS
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	PASS
Hash Collisions Variable	SWC-133	Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.	PASS
Hardcoded gas amount	SWC-134	The transfer() and send() functions forward a fixed amount of 2300 gas.	PASS
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	PASS

SMART CONTRACT ANALYSIS

Started	Sunday Oct 17 2021 04:13:26 GMT+0000 (Coordinated Universal Time)
Finished	Monday Oct 18 2021 06:11:36 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	CoinToken.sol

Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged

SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED	low	acknowledged

SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
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SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 104

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
103   function add(uint256 a, uint256 b) internal pure returns (uint256) {
104   uint256 c = a + b;
105   require(c >= a, "SafeMath: addition overflow");
106
107   return c;
108
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 136

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
135   require(b <= a, errorMessage);
136   uint256 c = a - b;
137
138   return c;
139   }
140
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 159

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
158
159   uint256 c = a * b;
160   require(c / a == b, "SafeMath: multiplication overflow");
161
162   return c;
163
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 160

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
159   uint256 c = a * b;
160   require(c / a == b, "SafeMath: multiplication overflow");
161
162   return c;
163   }
164
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 195

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
194   require(b > 0, errorMessage);
195   uint256 c = a / b;
196   // assert(a == b * c + a % b); // There is no case in which this doesn't hold
197
198   return c;
199
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 231

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
230   require(b != 0, errorMessage);
231   return a % b;
232   }
233   }
234
235
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 450

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
449   _owner = address(0);
450   _lockTime = now + time;
451   emit OwnershipTransferred(_owner, address(0));
452   }
453
454
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 732

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
731   _decimals = _DECIMALS;
732   _tTotal = _supply * 10 ** _decimals;
733   _rTotal = (MAX - (MAX % _tTotal));
734   _taxFee = _txFee;
735   _liquidityFee = _lpFee;
736
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 732

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
731   _decimals = _DECIMALS;
732   _tTotal = _supply * 10 ** _decimals;
733   _rTotal = (MAX - (MAX % _tTotal));
734   _taxFee = _txFee;
735   _liquidityFee = _lpFee;
736
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 733

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
732   _tTotal = _supply * 10 ** _decimals;
733   _rTotal = (MAX - (MAX % _tTotal));
734   _taxFee = _txFee;
735   _liquidityFee = _lpFee;
736   _previousTaxFee = _txFee;
737
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 733

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
732   _tTotal = _supply * 10 ** _decimals;
733   _rTotal = (MAX - (MAX % _tTotal));
734   _taxFee = _txFee;
735   _liquidityFee = _lpFee;
736   _previousTaxFee = _txFee;
737
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 738

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
737   _previousLiquidityFee = _lpFee;
738   _maxTxAmount = _MAXAMOUNT * 10 ** _decimals;
739   numTokensSellToAddToLiquidity = SELLMAXAMOUNT * 10 ** _decimals;
740
741
742
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 738

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
737   _previousLiquidityFee = _lpFee;
738   _maxTxAmount = _MAXAMOUNT * 10 ** _decimals;
739   numTokensSellToAddToLiquidity = SELLMAXAMOUNT * 10 ** _decimals;
740
741
742
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 739

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
738   _maxTxAmount = _MAXAMOUNT * 10 ** _decimals;
739   numTokensSellToAddToLiquidity = SELLMAXAMOUNT * 10 ** _decimals;
740
741
742   _rOwned[tokenOwner] = _rTotal;
743
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 739

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
738   _maxTxAmount = _MAXAMOUNT * 10 ** _decimals;
739   numTokensSellToAddToLiquidity = SELLMAXAMOUNT * 10 ** _decimals;
740
741
742   _rOwned[tokenOwner] = _rTotal;
743
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 859

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
858   require(_isExcluded[account], "Account is already excluded");
859   for (uint256 i = 0; i < _excluded.length; i++) {
860   if (_excluded[i] == account) {
861   _excluded[i] = _excluded[_excluded.length - 1];
862   _tOwned[account] = 0;
863
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 861

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
860   if (_excluded[i] == account) {
861   _excluded[i] = _excluded[_excluded.length - 1];
862   _tOwned[account] = 0;
863   _isExcluded[account] = false;
864   _excluded.pop();
865
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 897

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
896   function setNumTokensSellToAddToLiquidity(uint256 swapNumber) public onlyOwner {
897   numTokensSellToAddToLiquidity = swapNumber * 10 ** _decimals;
898   }
899
900   function setMaxTxPercent(uint256 maxTxPercent) public onlyOwner {
901
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 897

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
896   function setNumTokensSellToAddToLiquidity(uint256 swapNumber) public onlyOwner {
897   numTokensSellToAddToLiquidity = swapNumber * 10 ** _decimals;
898   }
899
900   function setMaxTxPercent(uint256 maxTxPercent) public onlyOwner {
901
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 901

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
900   function setMaxTxPercent(uint256 maxTxPercent) public onlyOwner {
901   _maxTxAmount = maxTxPercent  * 10 ** _decimals;
902   }
903
904   function setSwapAndLiquifyEnabled(bool _enabled) public onlyOwner {
905
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 901

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
900   function setMaxTxPercent(uint256 maxTxPercent) public onlyOwner {
901   _maxTxAmount = maxTxPercent  * 10 ** _decimals;
902   }
903
904   function setSwapAndLiquifyEnabled(bool _enabled) public onlyOwner {
905
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 946

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
945   uint256 tSupply = _tTotal;
946   for (uint256 i = 0; i < _excluded.length; i++) {
947   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
948   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
949   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
950
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 970

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
969   return _amount.mul(_taxFee).div(
970   10**2
971   );
972   }
973
974
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 976

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
975   return _amount.mul(_liquidityFee).div(
976   10**2
977   );
978   }
979
980
```

SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 861

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- CoinToken.sol

Locations

```
860   if (_excluded[i] == account) {
861   _excluded[i] = _excluded[_excluded.length - 1];
862   _tOwned[account] = 0;
863   _isExcluded[account] = false;
864   _excluded.pop();
865
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 5

low SEVERITY

The current pragma Solidity directive is ""^0.6.12"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- CoinToken.sol

Locations

```
4
5   pragma solidity ^0.6.12;
6   // SPDX-License-Identifier: Unlicensed
7   interface IERC20 {
8
9
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 708

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

Source File

- CoinToken.sol

Locations

```
707
708   bool inSwapAndLiquify;
709   bool public swapAndLiquifyEnabled = true;
710
711   uint256 public _maxTxAmount;
712
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 860

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
859   for (uint256 i = 0; i < _excluded.length; i++) {
860   if (_excluded[i] == account) {
861   _excluded[i] = _excluded[_excluded.length - 1];
862   _tOwned[account] = 0;
863   _isExcluded[account] = false;
864
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 861

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
860   if (_excluded[i] == account) {
861   _excluded[i] = _excluded[_excluded.length - 1];
862   _tOwned[account] = 0;
863   _isExcluded[account] = false;
864   _excluded.pop();
865
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 861

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
860   if (_excluded[i] == account) {
861   _excluded[i] = _excluded[_excluded.length - 1];
862   _tOwned[account] = 0;
863   _isExcluded[account] = false;
864   _excluded.pop();
865
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 947

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
946   for (uint256 i = 0; i < _excluded.length; i++) {
947   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
948   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
949   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
950   }
951
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 947

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
946   for (uint256 i = 0; i < _excluded.length; i++) {
947   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
948   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
949   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
950   }
951
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 948

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
947   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
948   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
949   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
950   }
951   if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
952
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 949

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
948   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
949   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
950   }
951   if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
952   return (rSupply, tSupply);
953
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1079

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
1078   address[] memory path = new address[](2);
1079   path[0] = address(this);
1080   path[1] = uniswapV2Router.WETH();
1081
1082   _approve(address(this), address(uniswapV2Router), tokenAmount);
1083
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1080

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- CoinToken.sol

Locations

```
1079   path[0] = address(this);
1080   path[1] = uniswapV2Router.WETH();
1081
1082   _approve(address(this), address(uniswapV2Router), tokenAmount);
1083
1084
```

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