



Smart Contract Audit

FOR
Stitch Inu

DATED : 20 May 23'



AUDIT SUMMARY

Project name - Stitch Inu

Date: 20 May, 2023

Scope of Audit- Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

Audit Status: **Passed**

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	1	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0



USED TOOLS

Tools:

1- Manual Review:

a line by line code review has been performed by audit ace team.

2- BSC Test Network:

all tests were done on BSC Test network, each test has its transaction has attached to it.

3- Slither : Static Analysis

Testnet Link: all tests were done using this contract, tests are done on BSC Testnet

<https://testnet.bscscan.com/address/0xc38714F350897F64bB40679321f7Ad3b4173B96e#code>



Token Information

Token Name : Stitch Inu

Token Symbol: StitchInu

Decimals: 9

Token Supply:420,000,000,000,000,000

Token Address:

0x8e79ab7C02D5b8B1cC5A6154EdEbd0f0033E821C

Checksum:

f803552931fc9b646677b37fdd16ec74396fdc29

Owner:

0xC0B3f99418E1871A9B4f2c68e3EBB2db8EE3fF2C



TOKEN OVERVIEW

Fees:

Buy Fees: 0-25%

Sell Fees: 0-25 %

Transfer Fees: 0-25%

Fees Privilege: owner

Ownership : owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: none

Blacklist: No

Other Privileges: Modifying fees- including in rewards-
excluding from rewards- changing swap threshold
- changing reward settings (min token to be eligible
and cooldown)- initial distribution of the tokens



AUDIT METHODOLOGY

The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
 - Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
 - Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
 - Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
 - Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
 - Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.
-

VULNERABILITY CHECKLIST

- | | |
|------------------------------------|-------------------------------|
| ✓ Return values of low-level calls | ✓ Gasless Send |
| ✓ Private modifier | ✓ Using block.timestamp |
| ✓ Multiple Sends | ✓ Re-entrancy |
| ✓ Using Suicide | ✓ Tautology or contradiction |
| ✓ Gas Limitand Loops | ✓ Timestamp Dependence |
| ✓ Address hardcoded | ✓ Revert/require functions |
| ✓ Exception Disorder | ✓ Use of tx.origin |
| ✓ Using inline assembly | ✓ Integer overflow/underflow |
| ✓ Divide before multiply | ✓ Dangerous strict equalities |
| ✓ Missing Zero Address Validation | ✓ Using SHA3 |
| ✓ Compiler version not fixed | ✓ Using throw |
-



CLASSIFICATION OF RISK

Severity

Description

◆ Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
◆ High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
◆ Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
◆ Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
◆ Gas Optimization /Suggestion	A vulnerability that has an informational character but is not affecting any of the code.

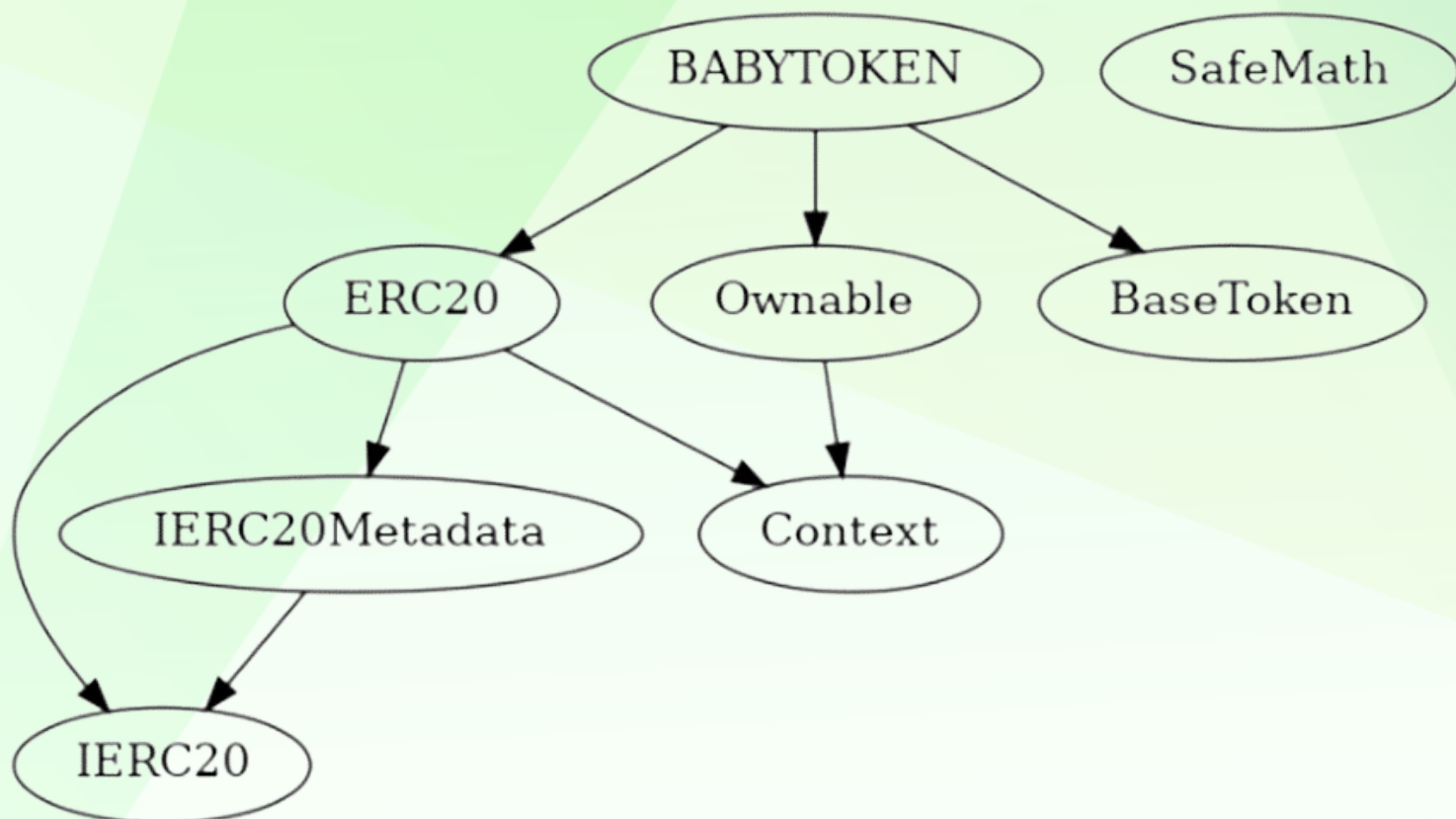
Findings

Severity

Found

◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	1
◆ Low-Risk	0
◆ Gas Optimization / Suggestions	0

INHERITANCE TREE





POINTS TO NOTE

- Owner is not able to change buy/sell/transfer fees within range 0-25%
 - Owner is not able to blacklist an arbitrary address.
 - Owner is not able to disable trades
 - Owner is not able to limit buy/sell/transfer/wallet amounts
 - Owner is not able to mint new tokens
 - **Token is pinksale generated (already tested) and uses busd as reward token.**
-











































CONTRACT ASSESMENT

Contract	Type	Bases			
:-----: :-----: :-----: :-----: :-----:					
L	**Function Name**	**Visibility**	**Mutability**	**Modifiers**	
IERC20 Interface					
L	totalSupply	External !	NO !		
L	balanceOf	External !	NO !		
L	transfer	External !	NO !		
L	allowance	External !	NO !		
L	approve	External !	NO !		
L	transferFrom	External !	NO !		
IERC20Metadata Interface IERC20					
L	name	External !	NO !		
L	symbol	External !	NO !		
L	decimals	External !	NO !		
Context Implementation					
L	_msgSender	Internal			
L	_msgData	Internal			
ERC20 Implementation Context, IERC20, IERC20Metadata					
L	<Constructor>	Public !	NO !		
L	name	Public !	NO !		
L	symbol	Public !	NO !		
L	decimals	Public !	NO !		
L	totalSupply	Public !	NO !		
L	balanceOf	Public !	NO !		
L	transfer	Public !	NO !		
L	allowance	Public !	NO !		
L	approve	Public !	NO !		
L	transferFrom	Public !	NO !		
L	increaseAllowance	Public !	NO !		
L	decreaseAllowance	Public !	NO !		
L	_transfer	Internal			
L	_mint	Internal			
L	_burn	Internal			
L	_approve	Internal			
L	_beforeTokenTransfer	Internal			
L	_afterTokenTransfer	Internal			
Ownable Implementation Context					

CONTRACT ASSESMENT

```

| L | <Constructor> | Public ! |  | NO! |
| L | owner | Public ! | | NO! |
| L | renounceOwnership | Public ! |  | onlyOwner |
| L | transferOwnership | Public ! |  | onlyOwner |
| L | _setOwner | Private  |  | |
|||||
| **SafeMath** | Library | |||
| L | tryAdd | Internal  | | |
| L | trySub | Internal  | | |
| L | tryMul | Internal  | | |
| L | tryDiv | Internal  | | |
| L | tryMod | Internal  | | |
| L | add | Internal  | | |
| L | sub | Internal  | | |
| L | mul | Internal  | | |
| L | div | Internal  | | |
| L | mod | Internal  | | |
| L | sub | Internal  | | |
| L | div | Internal  | | |
| L | mod | Internal  | | |
|||||
| **Clones** | Library | |||
| L | clone | Internal  |  | |
| L | cloneDeterministic | Internal  |  | |
| L | predictDeterministicAddress | Internal  | | |
| L | predictDeterministicAddress | Internal  | | |
|||||
| **Address** | Library | |||
| L | isContract | Internal  | | |
| L | sendValue | Internal  |  | |
| L | functionCall | Internal  |  | |
| L | functionCall | Internal  |  | |
| L | functionCallWithValue | Internal  |  | |
| L | functionCallWithValue | Internal  |  | |
| L | functionStaticCall | Internal  | | |
| L | functionStaticCall | Internal  | | |
| L | functionDelegateCall | Internal  |  | |
| L | functionDelegateCall | Internal  |  | |
| L | verifyCallResult | Internal  | | |
|||||
| **IUniswapV2Factory** | Interface | |||
| L | feeTo | External ! | | NO! |

```

CONTRACT ASSESMENT

```

|  | feeToSetter | External ! | | NO! |
|  | getPair | External ! | | NO! |
|  | allPairs | External ! | | NO! |
|  | allPairsLength | External ! | | NO! |
|  | createPair | External ! | | NO! |
|  | setFeeTo | External ! | | NO! |
|  | setFeeToSetter | External ! | | NO! |
|  |  |  |  |  |
| **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! |
|  |  |  |  |  |
| **IERC20Upgradeable** | Interface | | |
|  | totalSupply | External ! | | NO! |
|  | balanceOf | External ! | | NO! |
|  | transfer | External ! | | NO! |
|  | allowance | External ! | | NO! |

```



CONTRACT ASSESMENT

```
|  | approve | External ! |  | NO! |
|  | transferFrom | External ! |  | NO! |
|  |  |
|  |  |
| **IERC20MetadataUpgradeable** | Interface | IERC20Upgradeable |  |
|  | name | External ! |  | NO! |
|  | symbol | External ! |  | NO! |
|  | decimals | External ! |  | NO! |
|  |  |
|  |  |
| **Initializable** | Implementation |  |
|  |  |
| **ContextUpgradeable** | Implementation | Initializable |  |
|  | __Context_init | Internal  |  | initializer |
|  | __Context_init_unchained | Internal  |  | initializer |
|  | _msgSender | Internal  |  |
|  | _msgData | Internal  |  |
|  |  |
| **ERC20Upgradeable** | Implementation | Initializable, ContextUpgradeable, IERC20Upgradeable,
IERC20MetadataUpgradeable |  |
|  | __ERC20_init | Internal  |  | initializer |
|  | __ERC20_init_unchained | Internal  |  | initializer |
|  | 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! |
|  | _transfer | Internal  |  |
|  | _mint | Internal  |  |
|  | _burn | Internal  |  |
|  | _approve | Internal  |  |
|  | _beforeTokenTransfer | Internal  |  |
|  | _afterTokenTransfer | Internal  |  |
|  |  |
|  |  |
| **OwnableUpgradeable** | Implementation | Initializable, ContextUpgradeable |  |
|  | __Ownable_init | Internal  |  | initializer |
|  | __Ownable_init_unchained | Internal  |  | initializer |
|  | owner | Public ! |  | NO! |
```



CONTRACT ASSESMENT

```
|  | renounceOwnership | Public ! |  | onlyOwner |
|  | transferOwnership | Public ! |  | onlyOwner |
|  | _setOwner | Private  |  |
|||||
| **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!|
|||||
| **SafeMathInt** | Library | |||
|  | mul | Internal  | |
|  | div | Internal  | |
|  | sub | Internal  | |
|  | add | Internal  | |
|  | abs | Internal  | |
|  | toUint256Safe | Internal  | |
|||||
```



CONTRACT ASSESMENT

```
| **SafeMathUint** | Library | |||
|  | toInt256Safe | Internal | | |
| |||||
| **IterableMapping** | Library | |||
|  | get | Internal | | |
|  | getIndexOfKey | Internal | | |
|  | getKeyAtIndex | Internal | | |
|  | size | Internal | | |
|  | set | Internal | | |
|  | remove | Internal | | |
| |||||
| **DividendPayingTokenInterface** | Interface | |||
|  | dividendOf | External | | NO |
|  | withdrawDividend | External | | NO |
| |||||
| **DividendPayingTokenOptionalInterface** | Interface | |||
|  | withdrawableDividendOf | External | | NO |
|  | withdrawnDividendOf | External | | NO |
|  | accumulativeDividendOf | External | | NO |
| |||||
| **DividendPayingToken** | Implementation | ERC20Upgradeable, OwnableUpgradeable,
DividendPayingTokenInterface, DividendPayingTokenOptionalInterface |||
|  | __DividendPayingToken_init | Internal | | | initializer |
|  | distributeCAKEDividends | Public | | onlyOwner |
|  | withdrawDividend | Public | | NO |
|  | _withdrawDividendOfUser | Internal | | |
|  | dividendOf | Public | | NO |
|  | withdrawableDividendOf | Public | | NO |
|  | withdrawnDividendOf | Public | | NO |
|  | accumulativeDividendOf | Public | | NO |
|  | _transfer | Internal | | |
|  | _mint | Internal | | |
|  | _burn | Internal | | |
|  | _setBalance | Internal | | |
| |||||
| **BABYTOKENDividendTracker** | Implementation | OwnableUpgradeable, DividendPayingToken |||
|  | initialize | External | | | initializer |
|  | _transfer | Internal | | |
|  | withdrawDividend | Public | | NO |
|  | excludeFromDividends | External | | onlyOwner |
|  | isExcludedFromDividends | Public | | NO |
|  | updateClaimWait | External | | onlyOwner |
```


CONTRACT ASSESMENT













```

|  | updateMinimumTokenBalanceForDividends | External ! |  | onlyOwner | |
|  | getLastProcessedIndex | External ! | |NO! |
|  | getNumberOfTokenHolders | External ! | |NO! |
|  | getAccount | Public ! | |NO! |
|  | getAccountAtIndex | Public ! | |NO! |
|  | canAutoClaim | Private  | | |
|  | setBalance | External ! |  | onlyOwner |
|  | process | Public ! |  |NO! |
|  | processAccount | Public ! |  | onlyOwner |
|  |  |
|  |  |
|  | **BaseToken** | Implementation | | |
|  |  |
|  | **BABYTOKEN** | Implementation | ERC20, Ownable, BaseToken | | |
|  | <Constructor> | Public ! |  | ERC20 |
|  | <Receive Ether> | External ! |  |NO! |
|  | setSwapTokensAtAmount | External ! |  | onlyOwner |
|  | excludeFromFees | External ! |  | onlyOwner |
|  | excludeMultipleAccountsFromFees | External ! |  | onlyOwner |
|  | setMarketingWallet | External ! |  | onlyOwner |
|  | setTokenRewardsFee | External ! |  | onlyOwner |
|  | setLiquiditFee | External ! |  | onlyOwner |
|  | setMarketingFee | External ! |  | onlyOwner |
|  | _setAutomatedMarketMakerPair | Private  |  | |
|  | updateGasForProcessing | Public ! |  | onlyOwner |
|  | updateClaimWait | External ! |  | onlyOwner |
|  | getClaimWait | External ! | |NO! |
|  | updateMinimumTokenBalanceForDividends | External ! |  | onlyOwner |
|  | getMinimumTokenBalanceForDividends | External ! | |NO! |
|  | getTotalDividendsDistributed | External ! | |NO! |
|  | isExcludedFromFees | Public ! | |NO! |
|  | withdrawableDividendOf | Public ! | |NO! |
|  | dividendTokenBalanceOf | Public ! | |NO! |
|  | excludeFromDividends | External ! |  | onlyOwner |
|  | isExcludedFromDividends | Public ! | |NO! |
|  | getAccountDividendsInfo | External ! | |NO! |
|  | getAccountDividendsInfoAtIndex | External ! | |NO! |
|  | processDividendTracker | External ! |  |NO! |
|  | claim | External ! |  |NO! |
|  | getLastProcessedIndex | External ! | |NO! |
|  | getNumberOfDividendTokenHolders | External ! | |NO! |
|  | _transfer | Internal  |  | |



```



CONTRACT ASSESMENT

^L	swapAndSendToFee	Private 		
^L	swapAndLiquify	Private 		
^L	swapTokensForEth	Private 		
^L	swapTokensForCake	Private 		
^L	addLiquidity	Private 		
^L	swapAndSendDividends	Private 		

Legend

Symbol	Meaning
:-----: -----	
	Function can modify state
	Function is payable

[illegible]

**Result => A static analysis of contract's source code has been performed using slither,
No major issues were found in the output**



FUNCTIONAL TESTING

Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

All the functionalities have been tested, no issues were found

1- Adding liquidity (passed):

<https://testnet.bscscan.com/tx/0xce24bb9fce945d03dd024f5e314b4ba2cac31a241e5b269e534becfd6b493195>

2- Buying when excluded (0% tax) (passed):

<https://testnet.bscscan.com/tx/0x6d68c089acbb901875077a8e51f9dfde6187fe71aadce2d349114ea5cc163a31>

3- Selling when excluded (0% tax) (passed):

<https://testnet.bscscan.com/tx/0x0fbf92c14b8e3b8e36ff29a630c3536be9e0a4d32eb456acc3cb04b2d6f736>

4- Transferring when excluded (0% tax) (passed):

<https://testnet.bscscan.com/tx/0xe312c3c6490c48d51786bef729370276d3a27f96fab9eb90c8d987834a7a4c07>

5- Buying from a regular wallet (0-25% tax) (passed):

<https://testnet.bscscan.com/tx/0x1a3d0b3d749f8b71a7f4a72b8d38314de54e41e7949a04ea1433e2f2db23c60c>

6- Selling from a regular wallet (0-25% tax) (passed):

<https://testnet.bscscan.com/tx/0x848fde8a939209507ba21a969ec50953d1fa2ccaa3a8bc69a4cbe91fd589ef9b>



FUNCTIONAL TESTING

7- Transferring from a regular wallet (0-25% tax) (passed):

<https://testnet.bscscan.com/tx/0x69e8f3b5e3bb7fb92116beb4f1cb08996765502f387c4a0f7a01c1962434d79e>

8-Internal swap + rewards distribution + auto liquidity((passed):

<https://testnet.bscscan.com/tx/0x848fde8a939209507ba21a969ec50953d1fa2ccaa3a8bc69a4cbe91fd589ef9b>

ISSUES FOUND

Category: Centralization

Subject: Excessive fees

Severity: Medium

Overview:

Owner is able to set buy/sell/transfer each one up to 25%

Code:

```
function setTokenRewardsFee(uint256 value) external onlyOwner { ... }  
function setLiquiditFee(uint256 value) external onlyOwner { ... }  
function setMarketingFee(uint256 value) external onlyOwner { ... }
```

Suggestion:

Implement a limit for max amount of buy/sell/transfer fees.

Buy Fees ≤ 10

Sell Fees ≤ 10

Transfer Fees ≤ 10



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