SKELETON ECOSYSTEM

SMART CONTRACT AUDIT

Catzuya Coin
[CATZUYA]
BEP 20

0x266790AAaB0340E988BD6A7E4AC9D9b7C0E9aA5f

Table of Contents

Global Disclaimer

This document serves as a disclaimer for the crypto smart contract audit conducted by Skeleton Ecosystem. The purpose of the audit was to review the codebase of the smart contracts for potential vulnerabilities and issues. It is important to note the following:

Limited Scope: The audit is based on the code and information available up to the audit completion date. It does not cover external factors, system interactions, or changes made after the audit. The audit itself can not guarantee 100% safaty and can not detect common scam methods like farming and developer sell-out.

No Guarantee of Security: While we have taken reasonable steps to identify vulnerabilities, it is impossible to guarantee the complete absence of security risks or issues. The audit report provides an assessment of the contract’s security as of the audit date.

Continued Development: Smart contracts and blockchain technology are evolving fields. Updates, forks, or changes to the contract post-audit may introduce new risks that were not present during the audit.

Third-party Code: If the smart contract relies on third-party libraries or code, those components were not thoroughly audited unless explicitly stated. Security of these dependencies is the responsibility of their respective developers.

Non-Exhaustive Testing: The audit involved automated analysis, manual review, and testing under controlled conditions. It is possible that certain vulnerabilities or issues may not have been identified.

Risk Evaluation: The audit report includes a risk assessment for identified vulnerabilities. It is recommended that the development team carefully reviews and addresses these risks to mitigate potential exploits.

Not Financial Advice: This audit report is not intended as financial or investment advice. Decisions regarding the use, deployment, or investment in the smart contract should be made based on a comprehensive assessment of the associated risks.

By accessing and using this audit report, you acknowledge and agree to the limitations outlined above. Skeleton Ecosystem and its auditors shall not be held liable for any direct or indirect damages resulting from the use of the audit report or the smart contract itself.

Please consult with legal, technical, and financial professionals before making any decisions related to the smart contract.

Overview

Contract Name	Catzuya Coin
Ticker/Simbol	CATZUYA
Blockchain	Binance Smart Chain BEP20
Contract Address	0x266790AAaB0340E988BD6A7E4AC9D9b7C0E9aA5f
Creator Address	0x8BF33BD3455787c59504FDB6b120d22fF5fe32f9
Current Owner Address	Renounced
Contract Explorer	https://bscscan.com/token/0x266790aaab0340e988bd6a7e4ac9d9b7c0e9aa5f
Compiler Version	v0.8.4+commit.c7e474f2
License	MIT
Optimisation	Yes with 200 Runs
Total Supply	9,900,000 **CATZUYA**
Decimals	18

Creation/Audit

Contract Deployed	07 Sept 2023
Audit Created	30 Sept 2023
Audit Update	V 1.0

Verified Socials

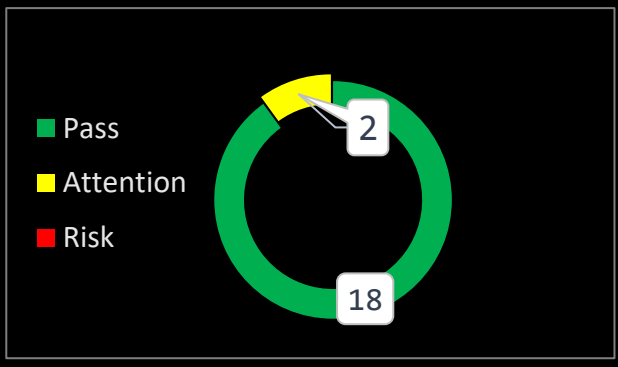
Website	https://www.catzuya.com/
Telegram	https://t.me/catzuyacoin
Twitter (X)	https://x.com/Catzuyacoinbsc

SKELETON ECOSYSTEM
SMART CONTRACT AUDIT REPORT

CATZUYA COIN BEP20

Contract Function Analysis

Pass Attention Item Risky Item

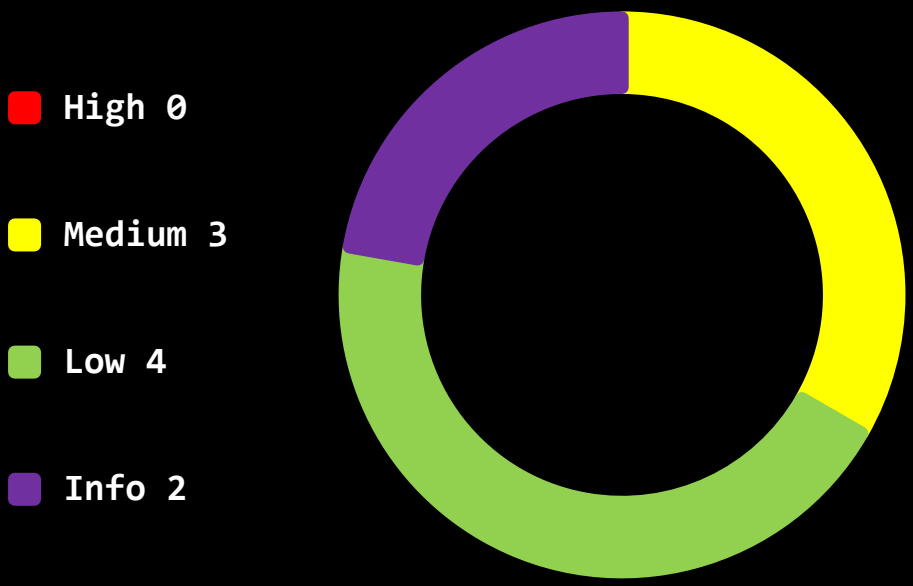


Contract Verified	✓	The contract source code is uploaded to blockchain explorer and is open source, so everybody can read it.
Contract Ownership	✓	Renounced
Buy Tax	9 %	Shows the taxes for purchase transactions. Above 10% may be considered a high tax rate. More than 50% tax rate means may not be tradable.
Sell Tax	9 %	Shows the taxes for sell transactions. Above 10% may be considered a high tax rate. More than 50% tax rate means may not be tradable.
Honeypot Analyse	✓	Holder is able to buy and sell. If honeypot: The contract blocks sell transfer from holder wallet. Multiple events may cause honeypot. Trading disabled, extremely high tax
Liqudity Status	✓	Status on 30.09.2023 Lp Locked: 70.53% Pinklock for 350 days. Lp Burned: 29.30%
Trading Disable Functions	✓	No Trading suspendable function found. If a suspendable code is included, the token maybe neither be bought or sold (honeypot risk). If contract is renounced this function can't be used
Set Fees function	⚠ ✓	Fee Setting function found. Renounced, this function is safe. The contract owner may contain the authority to modify the transaction tax. If the transaction tax is increased to more than 49%, the tokens may not be able to be traded (honeypot risk).
Proxy Contract	✓	Not a Proxy Contract. The proxy contract means contract owner can modifiy the function of the token and possibly effect the price. The Owner is not the creator but the creator may have authorisation to change functions.
Mint Function	✓	No mint Function found Mint function is transparent or non-existent. Hidden mint functions may increase the amount of tokens in circulation and effect the price of the token. Owner can mint new tokens and sell.

Balance Modifier Function		No Balance Modifier function found. If there is a function for this, the contract owner can have the authority to modify the balance of tokens at other addresses. For example revoke the bought tokens from the holders wallet. Common form of scam: You buy the token, but it's disappearing from your wallet.
Blacklist Function		No Blacklist function found If there is a blacklist, some addresses may not be able to trade normally. Example: you buy the token and right after your Wallet getting blacklisted. Like so you will be unable to sell. Honeypot Risk.
Whitelist Function		Whitelist function found but contract renounced. This function can not be used. If there is a function for this Developer can set zero fee or no max wallet size for adresses (for example team wallets can trade without fee. Can cause farming)
Hidden Owner Analysis		No authorised hidden owner found. For contract with a hidden owner, developer can still manipulate the contract even if the ownership has been abandoned. Fake renounce.
Retrieve Ownership Function		No functions found which can retrieve ownership of the contract. If this function exists, it is possible for the project owner to regain ownership even after relinquishing it. Also known as fake renounce.
Self Destruct Function		No Self Destruct function found. If this function exists and is triggered, the contract will be destroyed, all functions will be unavailable, and all related assets will be erased.
Specific Tax Changing Function		No Specific Tax Changing Functions found. If it exists, the contract owner may set a very outrageous tax rate for assigned address to block it from trading. Can assign all wallets at once!
Trading Cooldown Function		No Trading Cooldown Function found. If there is a trading cooldown function, the user will not be able to sell the token within a certain time or block after buying. Like a temporary honeypot.
Max Transaction and Holding Modify Function		No Max Transaction and Holding Modify function found. If there is a function for this, the maximum trading amount or maximum position can be modified. Can cause honeypot
Transaction Limiting Function		No Transaction Limiter Function Found. The number of overall token transactions may be limited (honeypot risk)

Contract Security

Total Findings: 8



High Severity Issues: High possibility to cause problems, need to be resolved.

Medium Severity Issue: Will likely cause problems, recommended to resolve.

Low Severity Issues: Won’t cause problems, but for improvement purposes could be adjusted.

Informational Severity Issues: Not harmful in any way, information for the developer team.

Contract Security

List of Found Issues

High severity Issues: (0)

Medium severity issues: (3)

- Approve of Front Running Attack
- Unchecked Array Lenght
- Usage of TX. Origin

Low severity issues: (3)

- Missing Events
- Outdated compiler version
- Long Number Literals
- Do’s with failed call

Informational severity issues: (2)

- Hard Coded Address
- Public Functions Should be Declared External

Contract Weakness Classisication

THE SMART CONTRACT WEAKNESS CLASSIFICATION REGISTRY (SWC REGISTRY) IS AN IMPLEMENTATION OF THE WEAKNESS CLASSIFICATION SCHEME PROPOSED IN EIP-1470. IT IS LOOSELY ALIGNED TO THE TERMINOLOGIES AND STRUCTURE USED IN THE COMMON WEAKNESS ENUMERATION (CWE) WHILE OVERLAYING A WIDE RANGE OF WEAKNESS VARIANTS THAT ARE SPECIFIC TO SMART CONTRACTS.

ID	Description	AI	Manual	Result
SWC-100	Function Default Visibility	Passed	Passed	Passed
SWC-101	Integer Overflow and Underflow	Passed	Passed	Passed
SWC-102	Outdated Compiler Version	Passed	Passed	Passed
SWC-103	Floating Pragma	Passed	Passed	Passed
SWC-104	Unchecked Call Return Value	Passed	Passed	Passed
SWC-105	Unprotected Ether Withdrawal	Passed	Passed	Passed
SWC-106	Unprotected SELFDESTRUCT Instruction	Passed	Passed	Passed
SWC-107	Reentrancy	Passed	Passed	Passed
SWC-108	State Variable Default Visibility	Passed	Passed	Passed
SWC-109	Uninitialized Storage Pointer	Passed	Passed	Passed
SWC-110	Assert Violation	Passed	Passed	Passed
SWC-111	Use of Deprecated Solidity Functions	Passed	Passed	Passed
SWC-112	Delegatecall to Untrusted Callee	Passed	Passed	Passed
SWC-113	DoS with Failed Call	Low	Low	Low
SWC-114	Transaction Order Dependence	Passed	Passed	Passed
SWC-115	Authorization through tx.origin	Medium	Medium	Medium
SWC-116	Block values as a proxy for time	Passed	Passed	Passed
SWC-117	Signature Malleability	Passed	Passed	Passed
SWC-118	Incorrect Constructor Name	Passed	Passed	Passed

SWC-119	Shadowing State Variables	**Passed**	**Passed**	**Passed**
SWC-120	Weak Sources of Randomness from Chain Attributes	**Passed**	**Passed**	**Passed**
SWC-121	Missing Protection against Signature Replay Attacks	**Passed**	**Passed**	**Passed**
SWC-122	Lack of Proper Signature Verification	**Passed**	**Passed**	**Passed**
SWC-123	Requirement Violation	**Passed**	**Passed**	**Passed**
SWC-124	Write to Arbitrary Storage Location	**Passed**	**Passed**	**Passed**
SWC-125	Incorrect Inheritance Order	**Passed**	**Passed**	**Passed**
SWC-126	Insufficient Gas Griefing	**Passed**	**Passed**	**Passed**
SWC-127	Arbitrary Jump with Function Type Variable	**Passed**	**Passed**	**Passed**
SWC-128	DoS With Block Gas Limit	**Passed**	**Passed**	**Passed**
SWC-129	Typographical Error	**Passed**	**Passed**	**Passed**
SWC-130	Right-To-Left-Override control character (U+202E)	**Passed**	**Passed**	**Passed**
SWC-131	Presence of unused variables	**Passed**	**Passed**	**Passed**
SWC-132	Unexpected Ether balance	**Passed**	**Passed**	**Passed**
SWC-133	Hash Collisions With Multiple Variable Length Arguments	**Passed**	**Passed**	**Passed**
SWC-134	Message call with hardcoded gas amount	**Passed**	**Passed**	**Passed**
SWC-135	Code With No Effects	**Passed**	**Passed**	**Passed**
SWC-136	Unencrypted Private Data On-Chain	**Passed**	**Passed**	**Passed**

Detected High and Medium Severity Vulnerability Description

⚠ Approve of front running attacks (5 Items)

Item: 1	Location:	Line 277-280	Severity:	Medium

Function	The approve() method overrides current allowance regardless of whether the spender already used it or not, so there is no way to increase or decrease allowance by a certain value atomically unless the token owner is a smart contract, not an account. This can be abused by a token receiver when they try to withdraw certain tokens from the sender's account. Meanwhile, if the sender decides to change the amount and sends another approve transaction, the receiver can notice this transaction before it's mined and can extract tokens from both the transactions, therefore, ending up with tokens from both the transactions. This is a front-running attack affecting the ERC20 Approve function. The function approve can be front-run by abusing the _approve function.
Remedation	1. Introduce mechanisms that limit the maximum acceptable gas price for transactions. This can help prevent front-runners from drastically increasing the gas fees to prioritize their transactions. 2. Use transaction taxes to prevent against front-run attack

```
ftrace | funcSig
277     function approve(address spender, uint256 amount) public virtual override returns (bool) {
278         _approve(_msgSender(), spender, amount);
279         return true;
280     }
281
```

Item: 2	Location:	Line 295-309	Severity:	Medium

Function	The transferFrom() method overrides current allowance regardless of whether the spender already used it or not, so there is no way to increase or decrease allowance by a certain value atomically unless the token owner is a smart contract, not an account. This can be abused by a token receiver when they try to withdraw certain tokens from the sender's account. Meanwhile, if the sender decides to change the amount and sends another approve transaction, the receiver can notice this transaction before it's mined and can extract tokens from both the transactions, therefore, ending up with tokens from both the transactions. This is a front-running attack affecting the ERC20 Approve function. The function transferFrom can be front-run by abusing the _approve function.
Remedation	1. Introduce mechanisms that limit the maximum acceptable gas price for transactions. This can help prevent front-runners from drastically increasing the gas fees to prioritize their transactions. 2. Use transaction taxes to prevent against front-run attack

```
295     function transferFrom(
296         address sender,
297         address recipient,
298         uint256 amount
299     ) public virtual override returns (bool) {
300         _transfer(sender, recipient, amount);
301 
302         uint256 currentAllowance = _allowances[sender][_msgSender()];
303         require(currentAllowance >= amount, "ERC20: transfer amount exceeds allowance");
304         unchecked {
305             _approve(sender, _msgSender(), currentAllowance - amount);
306         }
307 
308         return true;
309     }
310 
```

Item: 3	Location:	Line 3401-3417	Severity:	Medium

Function	The swapTokensForEth() method overrides current allowance regardless of whether the spender already used it or not, so there is no way to increase or decrease allowance by a certain value atomically unless the token owner is a smart contract, not an account. This can be abused by a token receiver when they try to withdraw certain tokens from the sender's account. Meanwhile, if the sender decides to change the amount and sends another approve transaction, the receiver can notice this transaction before it's mined and can extract tokens from both the transactions, therefore, ending up with tokens from both the transactions. This is a front-running attack affecting the ERC20 Approve function. The function swapTokensForEth can be front-run by abusing the _approve function.
Remedation	1. Introduce mechanisms that limit the maximum acceptable gas price for transactions. This can help prevent front-runners from drastically increasing the gas fees to prioritize their transactions. 2. Use transaction taxes to prevent against front-run attack

```
ftrace | funcSig
3401    function swapTokensForEth(uint256 tokenAmount) private {
3402        // generate the uniswap pair path of token -> weth
3403        address[] memory path = new address[](2);
3404        path[0] = address(this);
3405        path[1] = uniswapV2Router.WETH();
3406
3407        _approve(address(this), address(uniswapV2Router), tokenAmount);
3408
3409        // make the swap
3410        uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(
3411            tokenAmount,
3412            0, // accept any amount of ETH
3413            path,
3414            address(this),
3415            block.timestamp
3416        );
3417    }
```

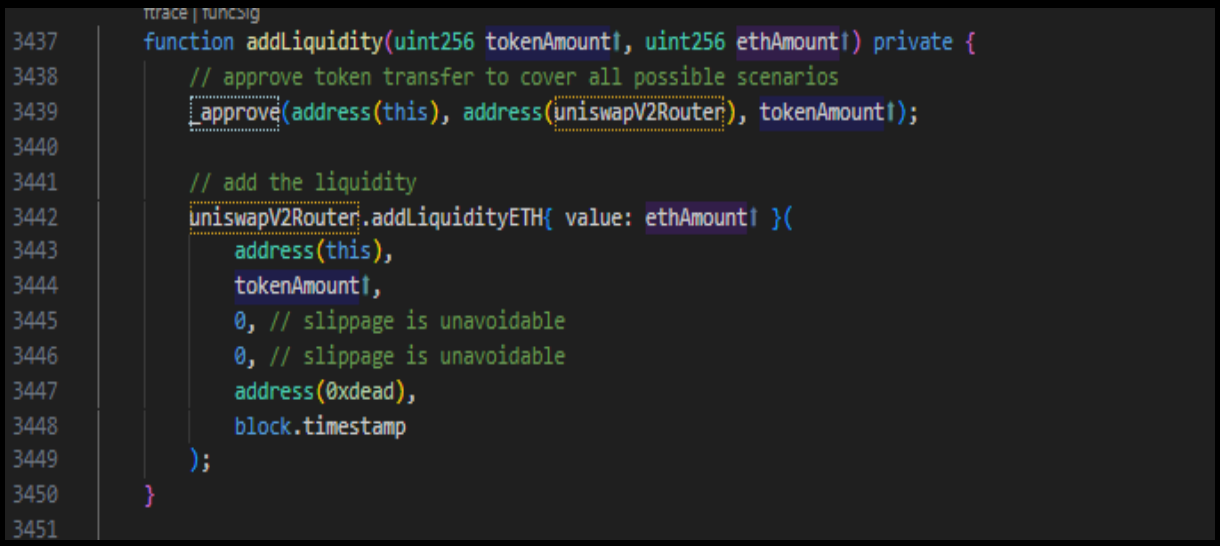
Item: 4	Location:	Line 3419-3435	Severity:	Medium

Function	The swapTokensForCake() method overrides current allowance regardless of whether the spender already used it or not, so there is no way to increase or decrease allowance by a certain value atomically unless the token owner is a smart contract, not an account. This can be abused by a token receiver when they try to withdraw certain tokens from the sender's account. Meanwhile, if the sender decides to change the amount and sends another approve transaction, the receiver can notice this transaction before it's mined and can extract tokens from both the transactions, therefore, ending up with tokens from both the transactions. This is a front-running attack affecting the ERC20 Approve function. The function swapTokensForCake can be front-run by abusing the _approve function.
Remedation	1. Introduce mechanisms that limit the maximum acceptable gas price for transactions. This can help prevent front-runners from drastically increasing the gas fees to prioritize their transactions. 2. Use transaction taxes to prevent against front-run attack

```
3419    function swapTokensForCake(uint256 tokenAmount) private {
3420        address[] memory path = new address[](3);
3421        path[0] = address(this);
3422        path[1] = uniswapV2Router.WETH();
3423        path[2] = rewardToken;
3424
3425        _approve(address(this), address(uniswapV2Router), tokenAmount);
3426
3427        // make the swap
3428        uniswapV2Router.swapExactTokensForTokensSupportingFeeOnTransferTokens(
3429            tokenAmount,
3430            0,
3431            path,
3432            address(this),
3433            block.timestamp
3434        );
3435    }
3436
```

Item: 5	Location:	Line 3437-3450	Severity:	Medium

Function	The addLiquidity() method overrides current allowance regardless of whether the spender already used it or not, so there is no way to increase or decrease allowance by a certain value atomically unless the token owner is a smart contract, not an account. This can be abused by a token receiver when they try to withdraw certain tokens from the sender's account. Meanwhile, if the sender decides to change the amount and sends another approve transaction, the receiver can notice this transaction before it's mined and can extract tokens from both the transactions, therefore, ending up with tokens from both the transactions. This is a front-running attack affecting the ERC20 Approve function. The function addLiquidity can be front-run by abusing the _approve function.
Remedation	1. Introduce mechanisms that limit the maximum acceptable gas price for transactions. This can help prevent front-runners from drastically increasing the gas fees to prioritize their transactions. 2. Use transaction taxes to prevent against front-run attack



```
3437    function addLiquidity(uint256 tokenAmount, uint256 ethAmount) private {
3438        // approve token transfer to cover all possible scenarios
3439        _approve(address(this), address(uniswapV2Router), tokenAmount);
3440
3441        // add the liquidity
3442        uniswapV2Router.addLiquidityETH{ value: ethAmount }(
3443            address(this),
3444            tokenAmount,
3445            0, // slippage is unavoidable
3446            0, // slippage is unavoidable
3447            address(0xdead),
3448            block.timestamp
3449        );
3450    }
3451
```

⚠ Unchecked Array Lenght (1 Items)

Item: 1	Location:	Line 3094	Severity:	Medium

Function	Ethereum is a very resource-constrained environment. Prices per computational step are orders of magnitude higher than with centralized providers. Moreover, Ethereum miners impose a limit on the total number of Gas consumed in a block. If array.length is large enough, the function exceeds the block gas limit, and transactions calling it will never be confirmed. for (uint256 i = 0; i < array.length ; i++) { cosltyFunc(); } This becomes a security issue if an external actor influences array.length. E.g., if an array enumerates all registered addresses, an adversary can register many addresses, causing the problem described above.
Remedation	Either explicitly or just due to normal operation, the number of iterations in a loop can grow beyond the block gas limit, which can cause the complete contract to be stalled at a certain point. Therefore, loops with a bigger or unknown number of steps should always be avoided.

```
3093    {
3094        for (uint256 i = 0; i < accounts[].length; i++) {
3095            _isExcludedFromFees[accounts[][i]] = true;
3096        }
```

⚠ TX. Origin Used (2 Items)

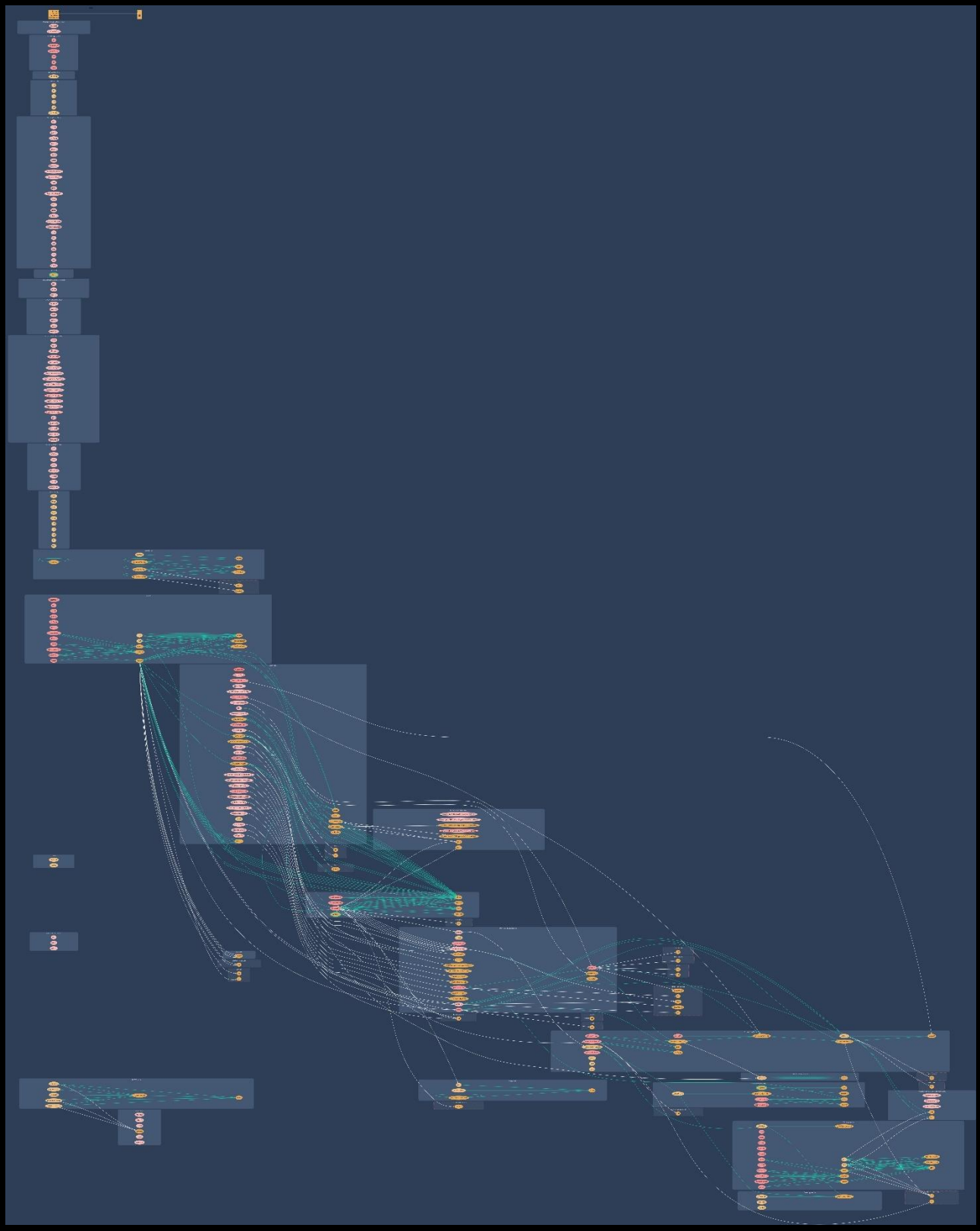
Item: 1	Location:	Line 3260	Severity:	Medium
Item: 2	Location:	Line 3360	Severity:	Medium

Function	In Solidity, tx.origin is a global variable that returns the address of the account that sent the transaction. Using the variable for authorization could make a contract vulnerable. For example, if an authorized account calls a malicious contract which triggers it to call the vulnerable contract that passes an authorization check since tx.origin returns the original sender of the transaction which in this case is the authorized account.
Remedation	tx.origin should not be used for authorization in smart contracts. It does have some legitimate use cases, for example, To prevent external contracts from calling the current contract, you can implement a require of the form require(tx.origin == msg.sender). This prevents intermediate contracts from calling the current contract, thus limiting the contract to regular codeless addresses.

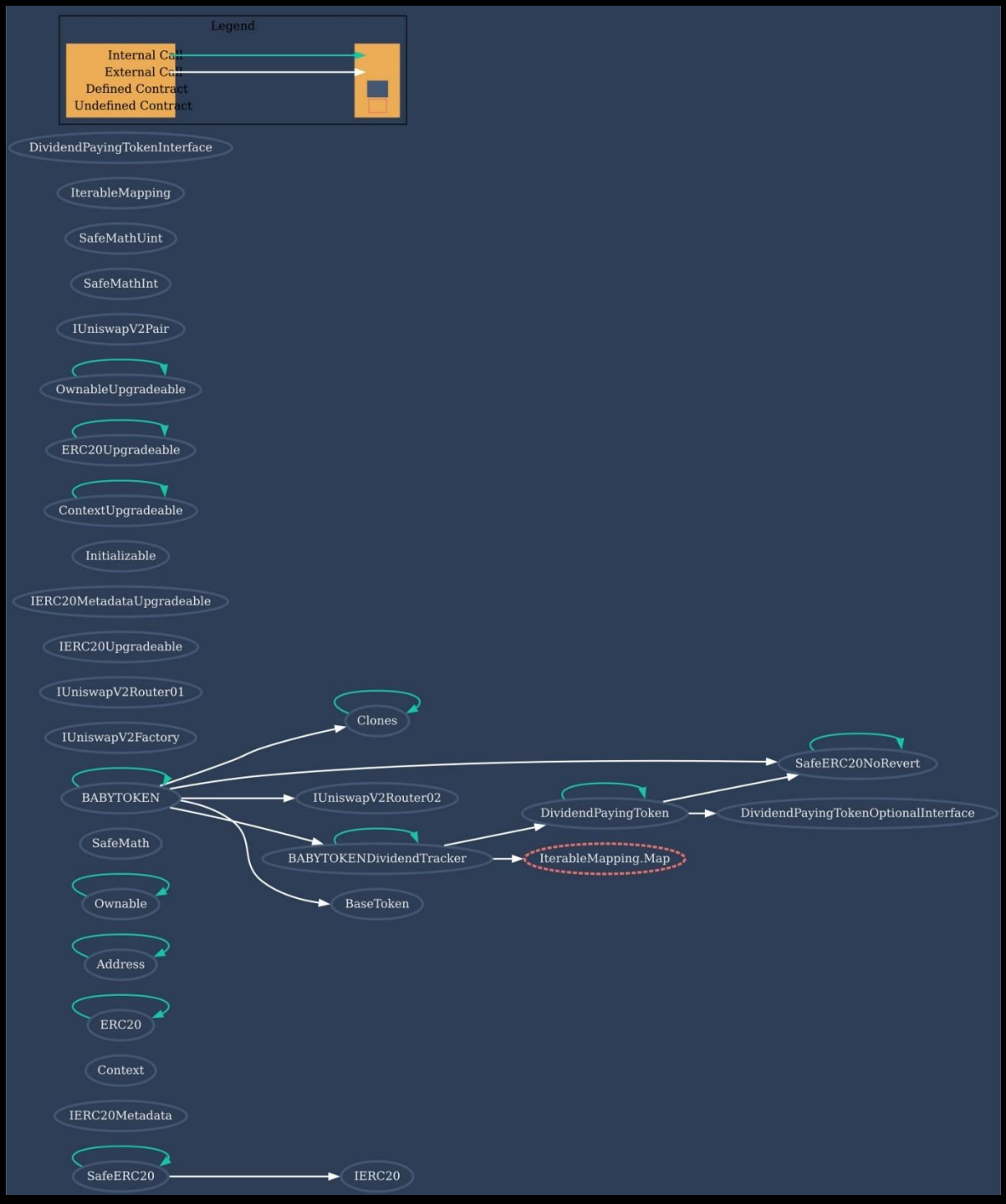
```
3259            gas,
3260            tx.origin
3261        );
```

```
3359                gas,
3360                tx.origin
3361            );
```

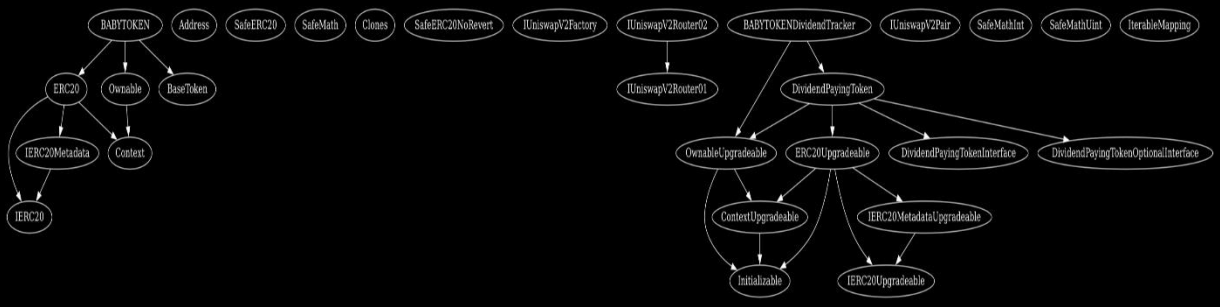
Contract Flow Graph



Interaction Graph



Inheritance Graph



Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
IERC20	Interface			
	totalSupply	External ❗		NO❗
	balanceOf	External ❗		NO❗
	transfer	External ❗	🛑	NO❗
	allowance	External ❗		NO❗
	approve	External ❗	🛑	NO❗
	transferFrom	External ❗	🛑	NO❗
IERC20Metadata	Interface	IERC20		
	name	External ❗		NO❗
	symbol	External ❗		NO❗
	decimals	External ❗		NO❗
Context	Implementation			
	_msgSender	Internal 🔒		
	_msgData	Internal 🔒		
ERC20	Implementation	Context, IERC20, IERC20Metadata		
		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❗
	_transfer	Internal 🔒	🛑	
	_mint	Internal 🔒	🛑	
	_burn	Internal 🔒	🛑	
	_approve	Internal 🔒	🛑	
	_beforeTokenTransfer	Internal 🔒	🛑	
	_afterTokenTransfer	Internal 🔒	🛑	
Address	Library			
	isContract	Internal 🔒		
	sendValue	Internal 🔒	🛑	
	functionCall	Internal 🔒	🛑	
	functionCall	Internal 🔒	🛑	
	functionCallWithValue	Internal 🔒	🛑	
	functionCallWithValue	Internal 🔒	🛑	

	functionStaticCall	Internal 🔒		
	functionStaticCall	Internal 🔒		
	functionDelegateCall	Internal 🔒	🛑	
	functionDelegateCall	Internal 🔒	🛑	
	verifyCallResult	Internal 🔒		
SafeERC20	Library			
	safeTransfer	Internal 🔒	🛑	
	safeTransferFrom	Internal 🔒	🛑	
	safeApprove	Internal 🔒	🛑	
	safeIncreaseAllowance	Internal 🔒	🛑	
	safeDecreaseAllowance	Internal 🔒	🛑	
	_callOptionalReturn	Private 🔐	🛑	
Ownable	Implementation	Context		
		Public ❗	🛑	NO❗
	owner	Public ❗		NO❗
	renounceOwnership	Public ❗	🛑	onlyOwner
	transferOwnership	Public ❗	🛑	onlyOwner
	_setOwner	Private 🔐	🛑	
SafeMath	Library			

	tryAdd	Internal 🔒		
	trySub	Internal 🔒		
	tryMul	Internal 🔒		
	tryDiv	Internal 🔒		
	tryMod	Internal 🔒		
	add	Internal 🔒		
	sub	Internal 🔒		
	mul	Internal 🔒		
	div	Internal 🔒		
	mod	Internal 🔒		
	sub	Internal 🔒		
	div	Internal 🔒		
	mod	Internal 🔒		
Clones	Library			
	clone	Internal 🔒	🛑	
	cloneDeterministic	Internal 🔒	🛑	
	predictDeterministicAddress	Internal 🔒		
	predictDeterministicAddress	Internal 🔒		
SafeERC20NoRevert	Library			

	safeTransfer	Internal 🔒	🛑	
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❗
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❗
	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❗

	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 🔒		
SafeMathUint	Library			
	toInt256Safe	Internal 🔒		

IterableMapping	Library			
	get	Public ❗		NO❗
	getIndexOfKey	Public ❗		NO❗
	getKeyAtIndex	Public ❗		NO❗
	size	Public ❗		NO❗
	set	Public ❗	🛑	NO❗
	remove	Public ❗	🛑	NO❗
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
	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		
		Public ❗	💸	ERC20
		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 🔒	🛑	
	swapAndSendToFee	Private 🔐	🛑	
	swapAndLiquify	Private 🔐	🛑	
	swapTokensForEth	Private 🔐	🛑	
	swapTokensForCake	Private 🔐	🛑	
	addLiquidity	Private 🔐	🛑	
	swapAndSendDividends	Private 🔐	🛑	

🛑 Function can modify state

💵 Function is payable

Audit Scope

Audit Method.

Our smart contract audit is an extensive methodical examination and analysis of the smart contract's code that is used to interact with the blockchain. Goal: discover errors, issues and security vulnaribilities in the code. Findings getting reported and improvements getting suggested.

Automatic and Manual Review
We are using automated tools to scan functions and weeknesses of the contract. Transfers, integer over-undeflow checks such as all CWE events.

Tools we use:
Visual Studio Code
CWE
SWC
Solidity Scan
SVD

In manual code review our auditor looking at source code and performing line by line examination. This method helps to clarify developer's coding decisions and business logic.

Skeleton Ecosystem

https://skeletonecosystem.com

https://github.com/SkeletonEcosystem/Audits