



# Smart Contract Audit

FOR  
**Solana Inu**

DATED : 13 November 23'



# AUDIT SUMMARY

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**Project name** – Solana Inu

**Date:** 13 November 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	0	2	1
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0

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# USED TOOLS

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## Tools:

### 1- Manual Review:

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

**2- BSC Test Network:** All tests were conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

### 3- Slither :

The code has undergone static analysis using Slither.

### Testnet version:

The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:

<https://testnet.bscscan.com/address/0x9197274ae3c74794fbdec24b326c68dd2c9820ed#code>

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# Token Information

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**Token Address:**

0x9B699293561f7738eA9f8D1b95412E811d530547

**Name:** Solana Inu

**Symbol:** Solana

**Decimals:** 18

**Network:** Binance smart chain

**Token Type:** ERC20

**Owner:** 0xdd157AbfF1F2688f6020ED4cb83bee76F9911c66

**Deployer:** 0xdd157AbfF1F2688f6020ED4cb83bee76F9911c66

**Token Supply:** 100000

**Checksum:** 30b62c72cb68e6e74fc455033097b98b

**Testnet version:**

The tests were performed using the contract deployed on the Binance smart chain Testnet, which can be found at the following address:

<https://testnet.bscscan.com/address/0x9197274ae3c74794fbdec24b326c68dd2c9820ed#code>

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# TOKEN OVERVIEW

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**current taxes**

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**Buy/sell 3%**

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**Tranfer fee 0**

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**Max Taxes**

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**buy 3%**

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**sell 20%**

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# AUDIT METHODOLOGY

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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.
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# VULNERABILITY CHECKLIST

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- |                                    |                               |
|------------------------------------|-------------------------------|
| ✓ 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

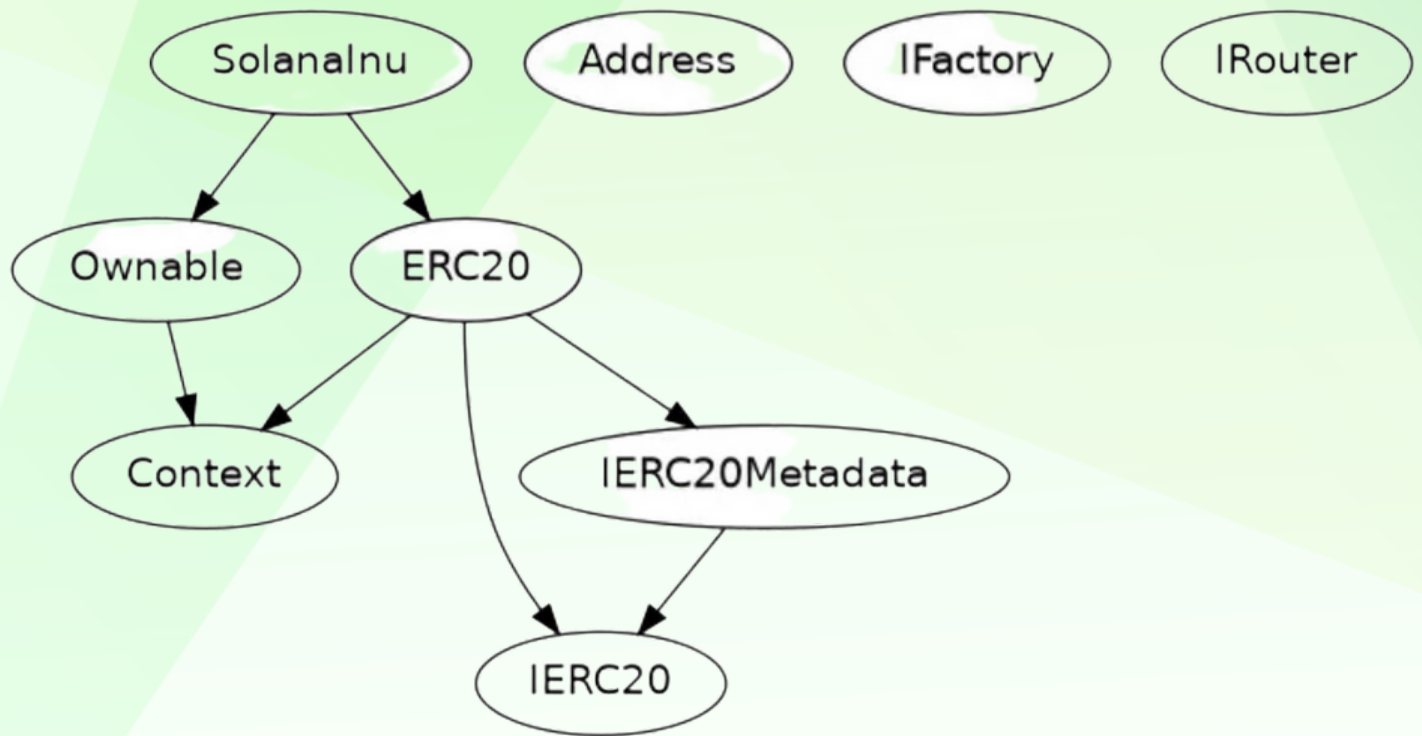
### Found

◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	0
◆ Low-Risk	2
◆ Gas Optimization / Suggestions	1



# INHERITANCE TREE

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# POINTS TO NOTE

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- Owner can renounce ownership.
  - Owner can transfer ownership.
  - Owner can update liquidityprovide.
  - Owner can update liquiditytreshhold.
  - Owner can enable trading.
  - Owner can update deadline.
  - Owner can update wallets.
  - Owner update Exempt fees.
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# STATIC ANALYSIS

```
INFO:Detectors:
SolanaInu.Liquify(uint256,SolanaInu.Taxes) (SolanaInu.sol#596-635) performs a multiplication on the result of a division:
  - unitBalance = deltaBalance / (denominator - swapTaxes.liquidity) (SolanaInu.sol#621-622)
  - ethToAddLiquidityWith = unitBalance * swapTaxes.liquidity (SolanaInu.sol#623)
SolanaInu.Liquify(uint256,SolanaInu.Taxes) (SolanaInu.sol#596-635) performs a multiplication on the result of a division:
  - unitBalance = deltaBalance / (denominator - swapTaxes.liquidity) (SolanaInu.sol#621-622)
  - devAmt = unitBalance * 2 * swapTaxes.dev (SolanaInu.sol#630)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#divide-before-multiply
INFO:Detectors:
SolanaInu._transfer(address,address,uint256).feeswap (SolanaInu.sol#551) is a local variable never initialized
SolanaInu._transfer(address,address,uint256).currentTaxes (SolanaInu.sol#554) is a local variable never initialized
SolanaInu._transfer(address,address,uint256).feesum (SolanaInu.sol#552) is a local variable never initialized
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#uninitialized-local-variables
INFO:Detectors:
SolanaInu.addLiquidity(uint256,uint256) (SolanaInu.sol#655-668) ignores return value by router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-return
INFO:Detectors:
SolanaInu._transfer(address,address,uint256).fee (SolanaInu.sol#553) is written in both
  fee = 0 (SolanaInu.sol#562)
  fee = (amount * feesum) / 100 (SolanaInu.sol#578)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#write-after-write
```

```
INFO:Detectors:
SolanaInu.updateLiquidityThreshold(uint256) (SolanaInu.sol#674-680) should emit an event for:
  - tokenLiquidityThreshold = new_amount + 10 ** decimals() (SolanaInu.sol#679)
SolanaInu.updateDeadline(uint256) (SolanaInu.sol#689-693) should emit an event for:
  - deadline = _deadline (SolanaInu.sol#692)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-arithmetic
INFO:Detectors:
Modifier SolanaInu.lockTheSwap() (SolanaInu.sol#454-460) does not always execute _; or revert
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-modifier
INFO:Detectors:
Reentrancy in SolanaInu.Liquify(uint256,SolanaInu.Taxes) (SolanaInu.sol#596-635):
  External calls:
  - swapTokensForETH(toSwap) (SolanaInu.sol#618)
    - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (SolanaInu.sol#646-652)
  - addLiquidity(tokensToAddLiquidityWith,ethToAddLiquidityWith) (SolanaInu.sol#627)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
  External calls sending eth:
  - addLiquidity(tokensToAddLiquidityWith,ethToAddLiquidityWith) (SolanaInu.sol#627)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
  State variables written after the call(s):
  - addLiquidity(tokensToAddLiquidityWith,ethToAddLiquidityWith) (SolanaInu.sol#627)
    - _allowances[owner][spender] = amount (SolanaInu.sol#331)
Reentrancy in SolanaInu.transferFrom(address,address,uint256) (SolanaInu.sol#489-504):
  External calls:
  - _transfer(sender,recipient,amount) (SolanaInu.sol#494)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
    - (success) = recipient.call{value: amount}() (SolanaInu.sol#343)
    - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (SolanaInu.sol#646-652)
    - address(devWallet).sendValue(devAmt) (SolanaInu.sol#632)
  External calls sending eth:
  - _transfer(sender,recipient,amount) (SolanaInu.sol#494)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
    - (success) = recipient.call{value: amount}() (SolanaInu.sol#343)
  State variables written after the call(s):
  - _approve(sender,_msgSender(),currentAllowance - amount) (SolanaInu.sol#501)
  - _allowances[owner][spender] = amount (SolanaInu.sol#331)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-2
```

```
INFO:Detectors:
Reentrancy in SolanaInu.Liquify(uint256,SolanaInu.Taxes) (SolanaInu.sol#596-635):
  External calls:
  - swapTokensForETH(toSwap) (SolanaInu.sol#618)
    - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (SolanaInu.sol#646-652)
  - addLiquidity(tokensToAddLiquidityWith,ethToAddLiquidityWith) (SolanaInu.sol#627)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
  External calls sending eth:
  - addLiquidity(tokensToAddLiquidityWith,ethToAddLiquidityWith) (SolanaInu.sol#627)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
  Event emitted after the call(s):
  - Approval(owner,spender,amount) (SolanaInu.sol#332)
  - addLiquidity(tokensToAddLiquidityWith,ethToAddLiquidityWith) (SolanaInu.sol#627)
Reentrancy in SolanaInu._transfer(address,address,uint256) (SolanaInu.sol#540-594):
  External calls:
  - Liquify(feeswap,currentTaxes) (SolanaInu.sol#583)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
    - (success) = recipient.call{value: amount}() (SolanaInu.sol#343)
    - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (SolanaInu.sol#646-652)
    - address(devWallet).sendValue(devAmt) (SolanaInu.sol#632)
  External calls sending eth:
  - Liquify(feeswap,currentTaxes) (SolanaInu.sol#583)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
    - (success) = recipient.call{value: amount}() (SolanaInu.sol#343)
  Event emitted after the call(s):
  - Transfer(sender,recipient,amount) (SolanaInu.sol#293)
    - super._transfer(sender,address(this),feeAmount) (SolanaInu.sol#591)
  - Transfer(sender,recipient,amount) (SolanaInu.sol#293)
    - super._transfer(sender,recipient,amount - fee) (SolanaInu.sol#586)
Reentrancy in SolanaInu.transferFrom(address,address,uint256) (SolanaInu.sol#489-504):
  External calls:
  - _transfer(sender,recipient,amount) (SolanaInu.sol#494)
    - router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,deadWallet,block.timestamp) (SolanaInu.sol#660-667)
    - (success) = recipient.call{value: amount}() (SolanaInu.sol#343)
    - router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (SolanaInu.sol#646-652)
    - address(devWallet).sendValue(devAmt) (SolanaInu.sol#632)
  External calls sending eth:
```



# STATIC ANALYSIS

```
INFO:Detectors:
Context._msgData() (SolanaInu.sol#13-16) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code
INFO:Detectors:
Pragma version^0.8.19 (SolanaInu.sol#6) necessitates a version too recent to be trusted. Consider deploying with 0.8.18.
solc-0.8.22 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
INFO:Detectors:
Low level call in Address.sendValue(address,uint256) (SolanaInu.sol#337-348):
- (success) = recipient.call{value: amount}() (SolanaInu.sol#343)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls
INFO:Detectors:
Function IRouter.WETH() (SolanaInu.sol#401) is not in mixedCase
Function SolanaInu.Liquify(uint256,SolanaInu.Taxes) (SolanaInu.sol#596-635) is not in mixedCase
Parameter SolanaInu.updateLiquidityTreshhold(uint256).new_amount (SolanaInu.sol#674) is not in mixedCase
Function SolanaInu.EnableTrading() (SolanaInu.sol#682-687) is not in mixedCase
Parameter SolanaInu.updatedeadline(uint256)._deadline (SolanaInu.sol#689) is not in mixedCase
Parameter SolanaInu.updateExemptFee(address,bool)._address (SolanaInu.sol#718) is not in mixedCase
Variable SolanaInu.genesis_block (SolanaInu.sol#436) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
INFO:Detectors:
Redundant expression "this (SolanaInu.sol#14)" inContext (SolanaInu.sol#8-17)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements
INFO:Detectors:
SolanaInu.launchtax (SolanaInu.sol#438) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant
INFO:Detectors:
SolanaInu.pair (SolanaInu.sol#428) should be immutable
SolanaInu.router (SolanaInu.sol#427) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
INFO:Slither:SolanaInu.sol analyzed (9 contracts with 93 detectors), 32 result(s) found
```

**Result => A static analysis of contract's source code has been performed using slither,**

**No major issues were found in the output**



# FUNCTIONAL TESTING

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## 1- Approve (**passed**):

<https://testnet.bscscan.com/tx/0x5bede0b31b5d0f63d9d5d7f6cf7f17e1a356122a9693eac4acc1cf84553cd961>

## 2- Enable Trading (**passed**):

<https://testnet.bscscan.com/tx/0x6deeab9fd8adcaeacb3b3d275182611e4a25fbb5e19441fc341b69f24b9894cb>

## 3- Bulk Exempt Fee (**passed**):

<https://testnet.bscscan.com/tx/0x5c61433e8d189826d0cf1b09ead70ac638757c316fb8f0c712687351dcc304e1>

## 4- Increase Allowance (**passed**):

<https://testnet.bscscan.com/tx/0xa3296f53a648751d05c178e6f9b6a2b8c4e6ff3e97e9afa2cc8fc04aaad00bdb>

## 5- Decrease Allowance (**passed**):

<https://testnet.bscscan.com/tx/0xdcdbde039b4082bf1351d3b32b00d392393839923f7e3a8f481506a4bf4f486bf>

## 6- Transfer (**passed**):

<https://testnet.bscscan.com/tx/0x46fe76a0435c619ef3b312d77154500ceb45d758834276325c07c787c1cf1539>

## 7- Transfer Ownership (**passed**):

<https://testnet.bscscan.com/tx/0xe309c1d8bb41844f8146ae8214421490e85f00b925eff5f9d91bb50f51df1f40>

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# MANUAL TESTING

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**Severity:** Low

**subject:** floating Pragma Solidity version

**Status:** Open

## Overview:

It is considered best practice to pick one compiler version and stick with it. With a floating pragma, contracts may accidentally be deployed using an outdated.

```
pragma solidity ^0.8.19;
```

## Suggestion

Adding the latest constant version of solidity is recommended, as this prevents the unintentional deployment of a contract with an outdated compiler that contains unresolved bugs.

---

# MANUAL TESTING

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**Severity:** Low

**subject:** Missing Events

**Status:** Open

**Overview:**

They serve as a mechanism for emitting and recording data onto the blockchain, making it transparent and easily accessible.

```
function EnableTrading() external onlyOwner {  
    require(!tradingEnabled, "Cannot re-enable trading");  
    tradingEnabled = true;  
    providingLiquidity = true;  
    genesis_block = block.number;  
}
```

```
function updatedeadline(uint256 _deadline) external  
onlyOwner {  
    require(!tradingEnabled, "Dev Can't change when trading  
has started");  
    require(_deadline < 5, "Deadline should be less than 5  
Blocks");  
    deadline = _deadline;  
}
```

---



# MANUAL TESTING

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```
function updateDevWallet(address newWallet) external  
onlyOwner {  
    require(newWallet != address(0), "Fee Address cannot be 0  
address");  
    devWallet = newWallet;  
}
```

```
function transferOwnership(address newOwner) public  
virtual onlyOwner {  
    require(  
        newOwner != address(0),  
        "Ownable: new owner is the zero address"  
    );  
    _setOwner(newOwner);  
}
```

## **Suggestion:**

Events are important and should be emitted for tracking this off-chain for all important functions.

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# MANUAL TESTING

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**Severity:** Suggestion/Informational  
**subject:** Wrong Naming Convention  
**Status:** Open

## Overview:

Wrong naming convention. Private Functions' name should start with '\_'

```
function Liquify(
    uint256 feeswap,
    Taxes memory swapTaxesS
) private lockTheSwap {
    if (feeswap == 0) {
        return;
    }
```

## Suggestion:

It is recommended that Clear and consistent naming conventions are essential for writing clean code. They improve code readability and help developers understand the purpose and functionality of variables, functions, and contracts.

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# ABOUT AUDITACE

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We specializes in providing thorough and reliable audits for Web3 projects. With a team of experienced professionals, we use cutting-edge technology and rigorous methodologies to evaluate the security and integrity of blockchain systems. We are committed to helping our clients ensure the safety and transparency of their digital assets and transactions.



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