VaultonToken.sol

Core Functions

1. constructor(address _pancakeRouter)

- Initializes the token with a total supply, sets up the PancakeSwap router, and performs the initial burn.

- Excludes the owner and contract from fees.

2. setPancakePair(address _pair)

- Manually sets the PancakeSwap pair address for trading.

- Ensures the pair is recognized as a DEX pair.

3. _transfer(address from, address to, uint256 amount)

- Overrides the ERC20 _transfer function to implement taxes, burn, and liquidity management.

- Handles self-transfers and blacklisted addresses.

4. swapAndLiquify(uint256 contractTokenBalance)

- Swaps half of the tokens for BNB and adds liquidity to the PancakeSwap pool.

5. swapTokensForBNB(uint256 tokenAmount)

- Swaps tokens for BNB using the PancakeSwap router with slippage protection.

6. addLiquidity(uint256 tokenAmount, uint256 bnbAmount)

- Adds liquidity to the PancakeSwap pool.

7. triggerSwapAndLiquify(uint256 contractTokenBalance)

- Manually triggers the swapAndLiquify function.

8. removeTaxes()

- Removes all taxes once the burn threshold is reached.

9. renounceContract()

- Renounces ownership of the contract.

10. blacklistAddress(address _address, bool _status)

- Blacklists or un-blacklists an address.

11. excludeFromFees(address _address, bool _status)

- Excludes or includes an address from paying fees.

12. queueDistribution()

- Prepares the distribution of funds to wallets based on their shares.

13. processDistribution(address wallet)

- Processes the distribution of funds to a specific wallet.

14. distributeFunds()

- Distributes funds to all configured wallets.

15. updateWallets(address _marketingWallet, address _cexWallet, address _operationsWallet)

- Updates the wallet addresses for fund distribution.

16. updateShares(uint256 _marketingShare, uint256 _cexShare, uint256 _operationsShare)

- Updates the distribution shares for each wallet.

17. getTokenConstants()

- Returns key token constants such as total supply, initial burn, burn threshold, and max transaction amount.

18. getTaxDistribution()

- Returns the current tax distribution percentages.

19. setSwapEnabled(bool enabled)

- Enables or disables automatic swap and liquify.

20. burn(address account, uint256 amount)

- Burns tokens from a specific account and updates the burned token counter.

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Test Functions

1. Transfer & Taxes Tests

- testTransferScenarios()
- testTransferWithoutTax()
- testBuyTax()
- testSellTax()
- testTaxDistributionOnSell()
- testTaxDistributionOnBuy()

2. Liquidity Tests

- testSwapAndLiquify()
- testLiquidityPoolReserves()

- testPancakeSwapCompatibility()

3. Burn Threshold Tests

- testBurnThresholdMechanism()
- testBurnThresholdExact()

4. Error Condition Tests

- testZeroAmountTransfer()
- testInsufficientBalance()
- testMaxTransactionLimitExact()
- testBlacklistBidirectional()

5. Getter Tests

- testAllGetters()
- testGetTokenConstants()
- testGetTaxDistribution()

6. Event Tests

- testAllEvents()
- testTaxAppliedEvent()

7. Update Tests

- testExcludeFromFees()
- testBlacklist()
- testMaxTransactionLimit()
- testOnlyOwnerRestrictions()
- testSmallTransfer()

- testForceRevertSetting()

8. Distribution Tests

- testQueueAndProcessDistribution()
- testDistributeFunds()

9. Update Wallets and Shares

- testUpdateWallets()
- testUpdateShares()

10. Ownership Tests

- testRemoveTaxes()
- testRenounceContract()