

## Title: Token Marketplace

### Introduction:

This program is a Token Marketplace where users can buy and sell different tokens. It is built using HTML, JavaScript, and the Web3 library to interact with a smart contract on the blockchain. The smart contract handles buying and selling operations for tokens such as house, garden, mortgage for a house, loan on a house, green asset, investment, and insurance for pets, family, or house. The program connects to the smart contract on the RSK blockchain testnet and displays the result of each sale on a webpage.

### HTML Code:

- The HTML code defines the structure and layout of the Token Marketplace webpage.
- It includes a form to buy tokens and a form to sell tokens.
- The forms contain input fields for wallet address, token selection, and sale price.
- Buttons are provided to execute the buyToken() and sellToken() functions.

### JavaScript Code (app.js):

- The JavaScript code is responsible for connecting to the smart contract and executing the buyToken() and sellToken() functions.
- It uses the Web3 library to connect to a local or remote Ethereum node.
- The contractAddress and contractABI variables need to be replaced with the actual contract address and ABI of the deployed smart contract.
- The buyToken() function retrieves the wallet address and selected token from the HTML form inputs and calls the corresponding buy function in the smart contract.
- The sellToken() function retrieves the selected token and sale price from the HTML form inputs and calls the corresponding sell function in the smart contract.
- The result of each sale is displayed in the "saleResult" paragraph element on the webpage.

Note: Before using the program, ensure that the contract address and ABI are correctly set to the deployed smart contract's values.

### Smart Contract (Solidity):

- The provided Solidity code is an example implementation of a smart contract that handles the buying and selling of tokens.
- It imports the necessary ERC20 token contract from the OpenZeppelin library.
- The contract keeps track of token balances for each token.
- The buyToken() function allows users to purchase tokens by specifying the token name and amount.
- The sellToken() function allows users to sell tokens by specifying the token name and amount.
- The getBalance() function returns the balance of a specific token in the contract.

Note: The Solidity smart contract needs to be compiled and deployed to the RSK blockchain testnet before it can be used.

To use the program, follow these steps:

1. Replace the contract address and ABI in the JavaScript code (app.js) with the actual values from the deployed smart contract.
2. Compile and deploy the provided Solidity smart contract to the RSK blockchain testnet.
3. Host the HTML file along with the app.js file on a web server or locally.
4. Access the webpage in a web browser.

5. Enter the wallet address, select a token, and click the "Buy" button to buy tokens.
6. Enter the token and sale price, and click the "Sell" button to sell tokens.
7. The result of each sale will be displayed in the "Sale Result" section on the webpage.