



School:Campus:

Academic Year: Subject Name: Subject Code:

Semester: Program: Branch: Specialization:

Date:

Applied and Action Learning

(Learning by Doing and Discovery)

Name of the Experiment: ERC-20 Basics – Tokenization Concepts

***Coding Phase: Pseudo Code / Flow Chart / Algorithm**

1. First we need to open Remix IDE
2. In the contracts folder create a Mytoken.sol file
3. Within .sol file we need to write our ERC-20 smart contract code
4. Then compile the code
5. Upon successful compilation choose Injected Provider-MetaMask as deployment environment
6. Then deploy the contract through metamask by confirming the transaction
7. Under deployed contracts section copy the contract address
8. Then through metamask wallet go to token section and select the deployed token
9. Then choose import tokens, under this section select sepolia network and paste the contract address in respective block and click next
10. Then click on import and our token will be imported successfully.
11. Then click on token section and select the imported token
12. Then click on send and enter the public address or domain name and click continue
13. Our token will be sent successfully

***software used:**

- Laptop
- Web Browser
- Remix IDE
- MetaMask Wallet
- Sepolia faucet

Page No.....

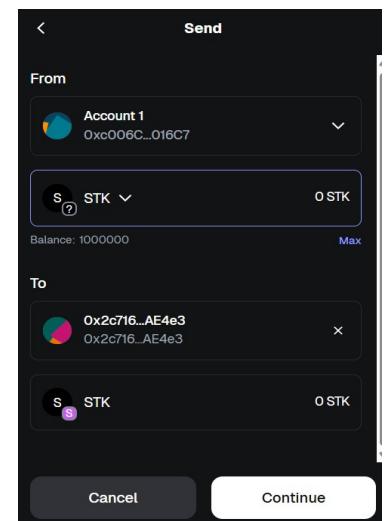
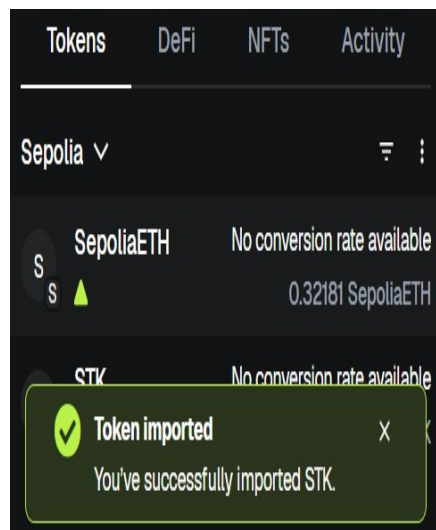
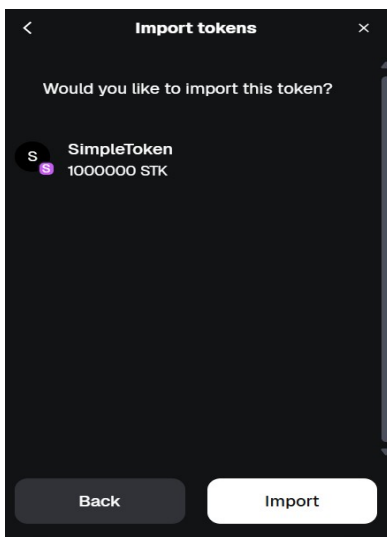
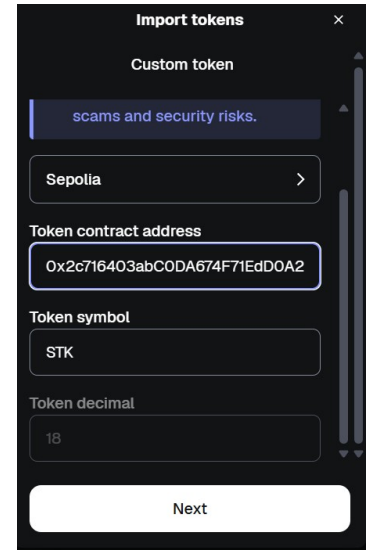
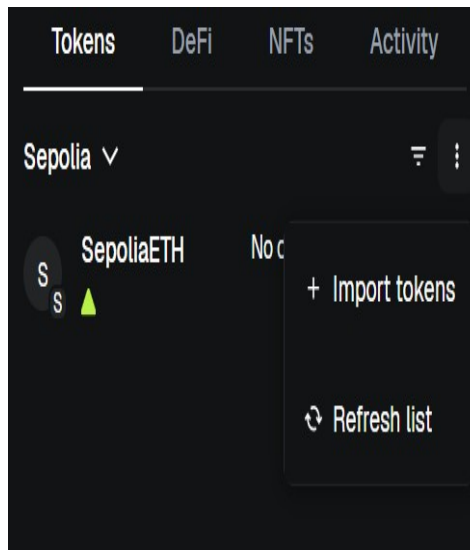
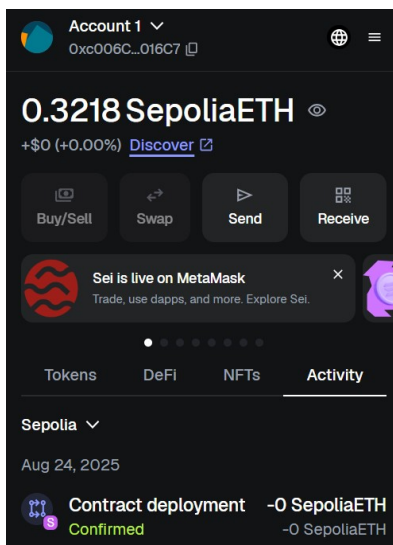
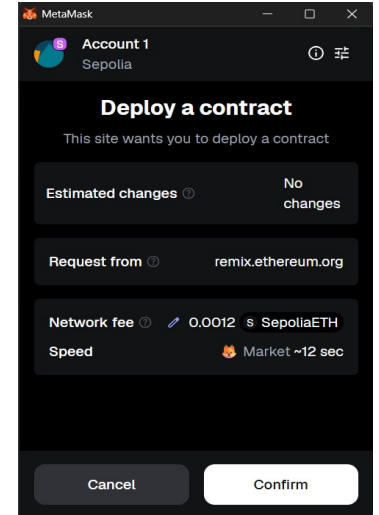
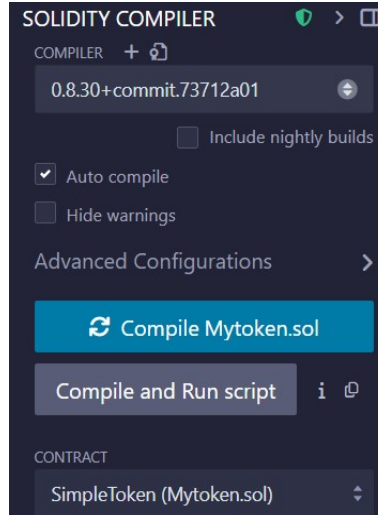
*** As applicable according to the experiment.
Two sheets per experiment (10-20) to be used.**

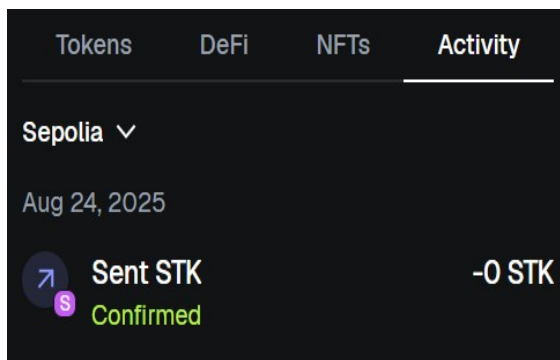
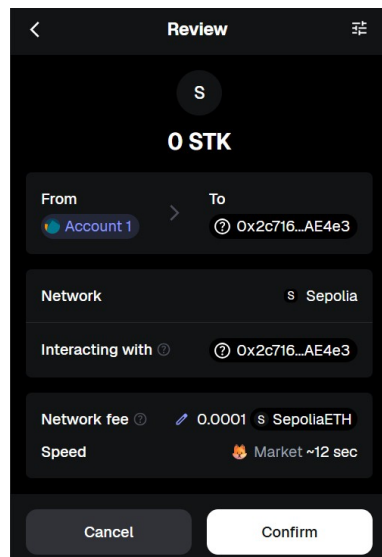
* Testing Phase: Compilation of Code (error detection)

NO ERROR

* Implementation Phase: Final Output (no error)

```
1 // SPDX-License-Identifier: MIT
2 pragma solidity ^0.8.0;
3
4 contract SimpleToken {
5     string public name = "SimpleToken";
6     string public symbol = "STK";
7     uint8 public decimals = 18;
8     uint256 public totalSupply = 1000000 * 10 ** decimals;
9     mapping(address => uint256) public balanceOf;
10
11     event Transfer(address indexed from, address indexed to, uint256 value);
12
13     constructor() {
14         balanceOf[msg.sender] = totalSupply; // Assign all tokens to deployer
15     }
16
17     function transfer(address to, uint256 value) public returns (bool) {
18         require(balanceOf[msg.sender] >= value, "Not enough tokens");
19         balanceOf[msg.sender] -= value;
20         balanceOf[to] += value;
21         emit Transfer(msg.sender, to, value);
22         return true;
23     }
24 }
25
```





*Observation:

- ERC-20 defines a standard interface for fungible tokens on the Ethereum blockchain, ensuring compatibility across wallets and dApps.
- Each ERC-20 token includes key functions like transfer, approve, and transferFrom for secure and standardized token interactions.
- Tokenization allows real-world and digital assets to be represented as ERC-20 tokens, enabling easy trading and ownership on blockchain.
- Deploying ERC-20 tokens requires smart contract knowledge and a wallet like MetaMask to interact with Ethereum networks.

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	50		

Signature of the Student :

Name :

Regn. No. :

Signature of the Faculty :

Page No.....

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