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: Know Your TX – Dissecting a Transaction

*Coding Phase: Pseudo Code / Flow Chart / Algorithm

Step 1: First we need to set up our development tools like MetaMask,Remix IDE, and a blockchain explorer Like sepolia etherscan.

Step 2: Use the Remix IDE to deploy a contract by creating a new (.sol) file

Step 3: Then we need to compile the new .sol file

Step 4: Once the file is compiled successfully then we need to click deploy and run transaction.

Step 5: By setting up the environment to Injected Provider-MetaMask we need to deploy the transaction

Step 6: After sending the transaction, MetaMask will show a popup.

Click **"Confirm"** to broadcast the transaction to the Sepolia testnet.

Step 7 **:** Open MetaMask → Click the "Activity" tab.

Find the latest transaction where we will find all the information regarding transactions along with id and we can check by clicking on "Blockchain Explorer"

Step 8 : End

*Software Used

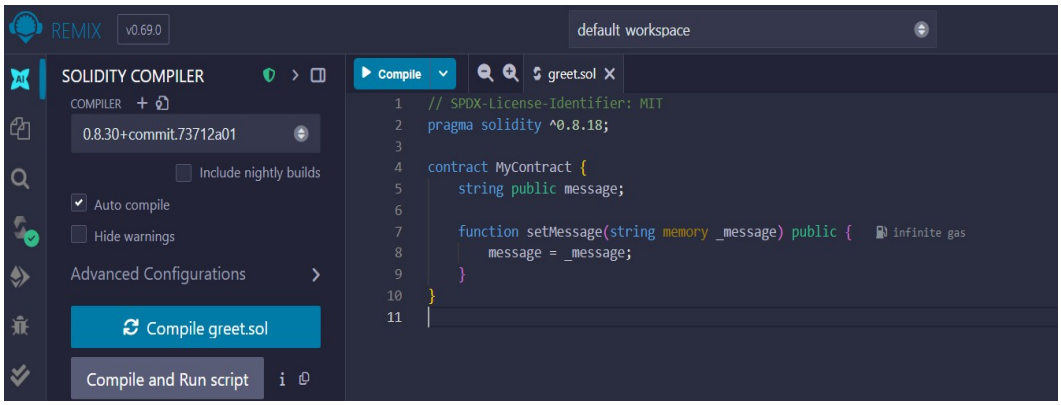
- Laptop
- Remix IDE
- MetaMask browser extension
- Sepolia Etherscan explorer

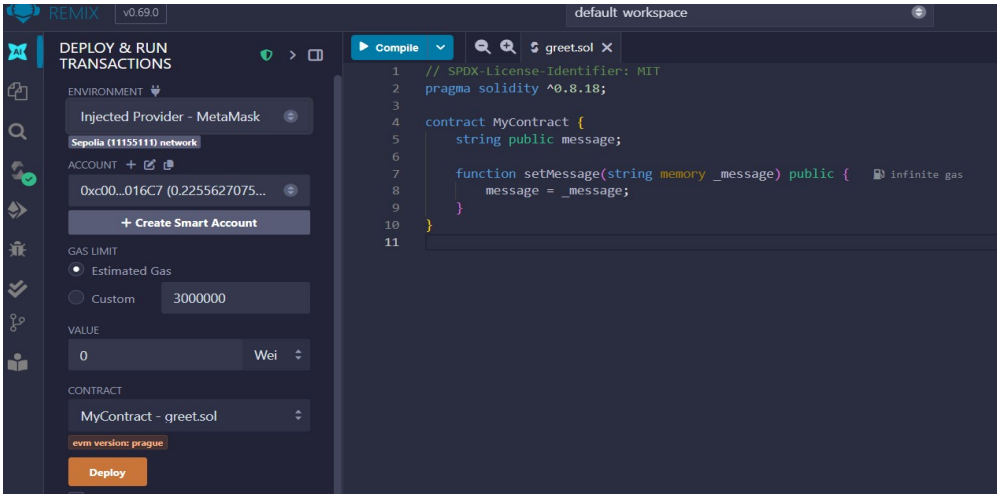
** As applicable according to the experiment.*
Two sheets per experiment (10-20) to be used.

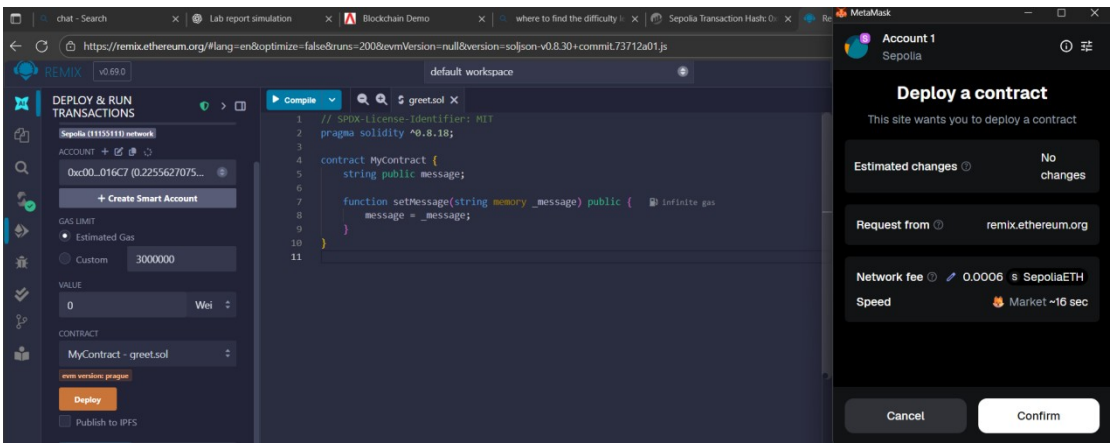
* Testing Phase: Compilation of Code (error detection)

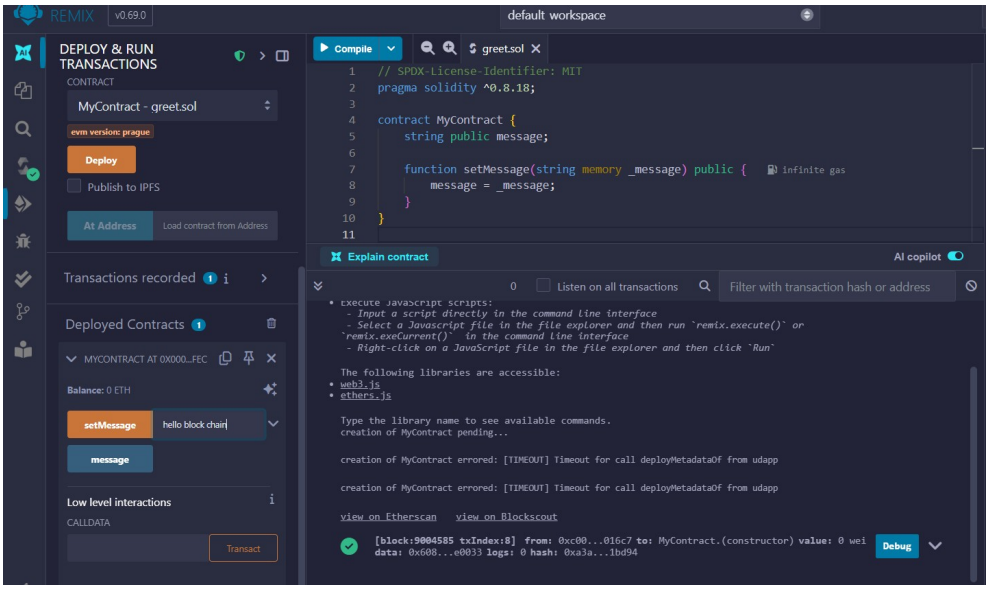
No error

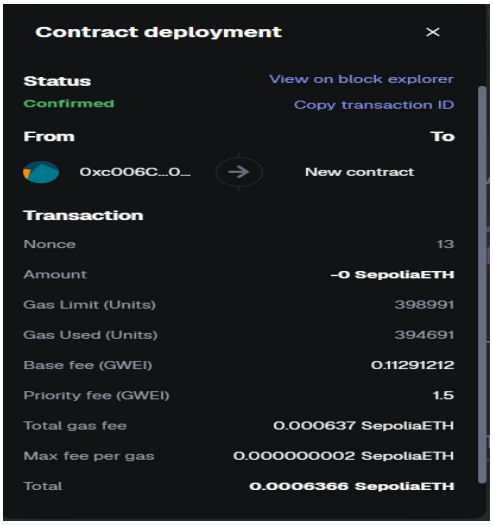
* Implementation Phase: Final Output (no error)

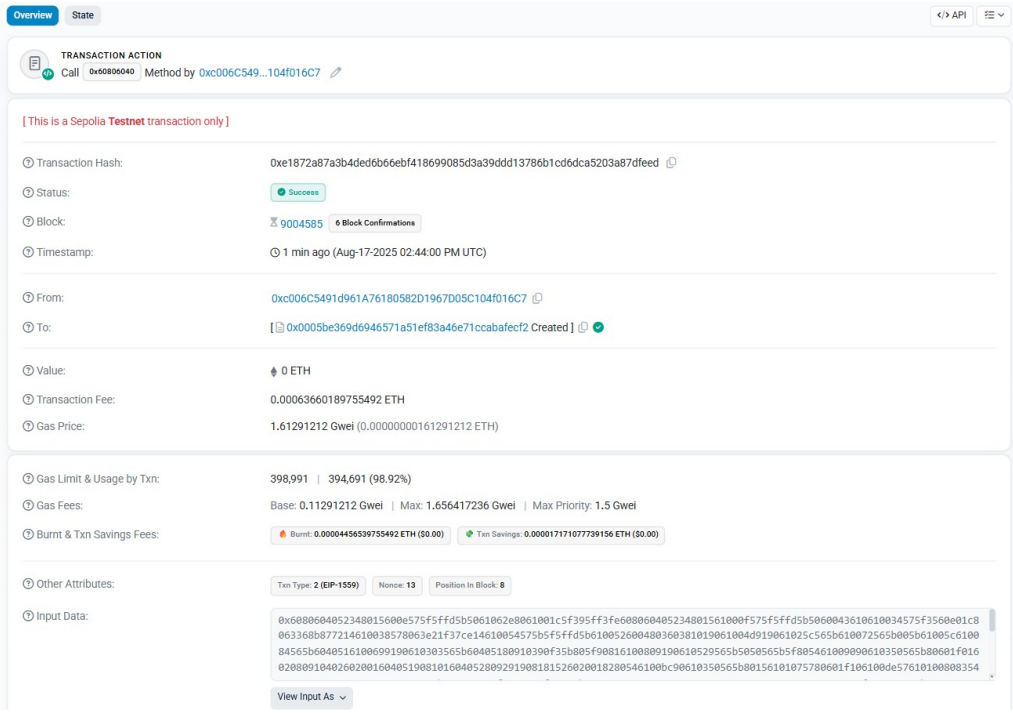












**** As applicable according to the experiment.***
Two sheets per experiment (10-20) to be used.

* Observations

- Each transaction has a unique hash (TxID) contains fields like sender address, receiver address, amount, gas (or fee), and timestamp.
- Transactions can include data payloads (especially in Ethereum smart contract interactions).
- Observed how gas price and gas limit influence the total transaction fee.
- A Bitcoin transaction consists of inputs (source addresses) and outputs (recipient addresses).
- Observed the concept of UTXOs (Unspent Transaction Outputs).
- Transaction Status: Transactions are first pending, then confirmed once included in a block.
- Confirmation count increases as more blocks are added.
- Hashing and Signatures: Transactions are signed by the sender using a private key.
- Transactions are timestamped and recorded at specific block heights.
- Confirmed that transaction speed depends on fee and network state.
- Error Handling: Transactions can fail due to low gas, invalid nonce, or contract logic errors.

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 :

Signature of the Faculty :

Regn. No. :

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