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: Mint it Yourself – NFT Creation and Deployment

*Objectives/Aim:

To understand how to **create (mint)** and **deploy** an **NFT (Non-Fungible Token)** smart contract on the Ethereum blockchain using **Solidity** and **Web3 tools** such as **Remix**, **Truffle**, or **Hardhat**.

*Coding Phase: Pseudo Code / Flow Chart / Algorithm

1. **Start**
2. Import ERC-721 standard from OpenZeppelin.
3. Define contract with name and symbol.
4. Define mintNFT() function:
5. enerate unique token ID.
6. ssign metadata URI.
7. ssign ownership to caller.
8. Compile smart contract in Solidity.
9. Deploy contract using Remix or Hardhat.
10. Mint NFT → confirm transaction on blockchain.
11. Verify NFT details via Etherscan or OpenSea testnet.
12. **End**

**** As applicable according to the experiment.***

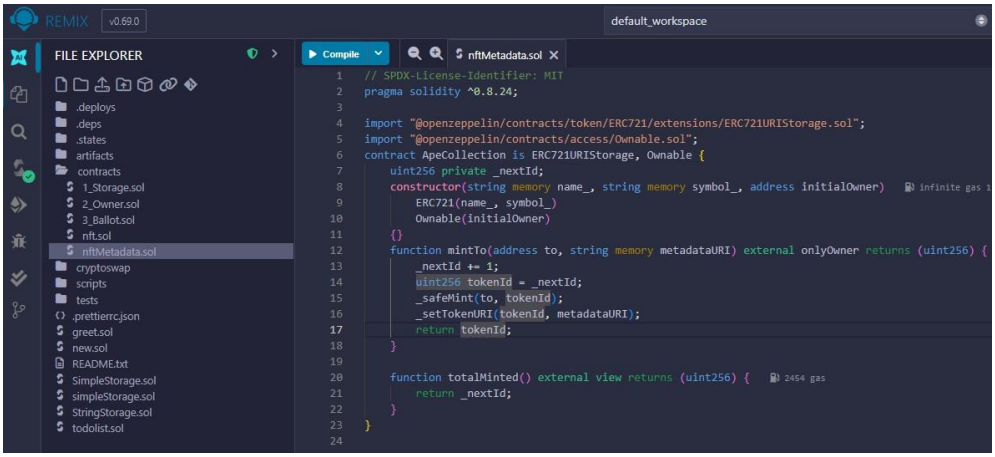
Two sheets per experiment (10-20) to be used.

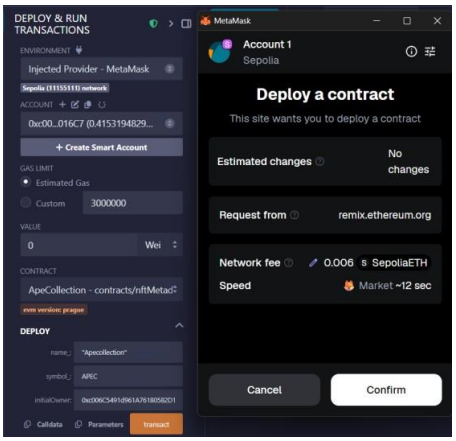
* Testing Phase: Compilation of Code (error detection)

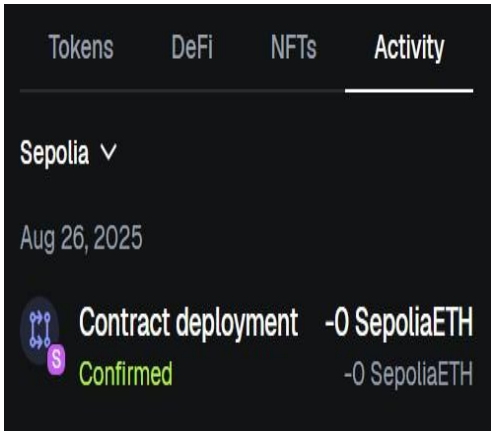
NO ERROR

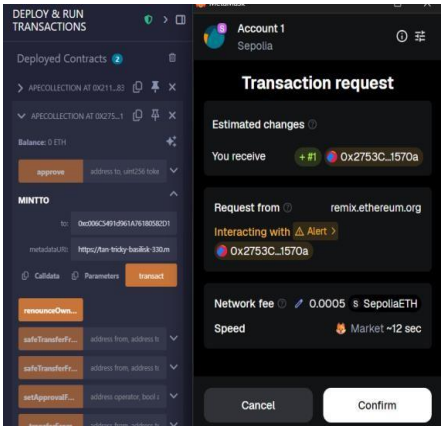
* Implementation Phase: Final Output (no error)


```
{
  "name": "CUTM Badge #2",
  "description": "NFT demo for Blockchain Studnets on Sepolia.",
  "image": "https://tan-tricky-basilisk-330.mypinata.cloud/ipfs/bafybeibug46wz2inmk6hqprfyvq5e3nl5kuzr5y5jdivxzh3psy3e5pvnu",
  "attributes": [
    {
      "trait_type": "Department",
      "value": "CSE"
    },
    {
      "trait_type": "Campus",
      "value": "BBSR"
    }
  ]
}
```

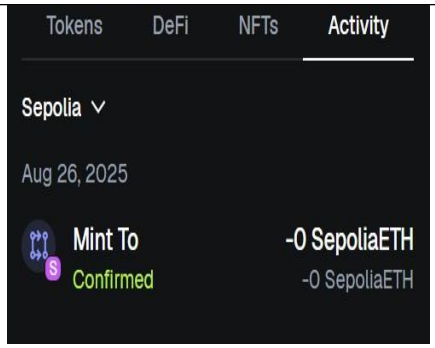


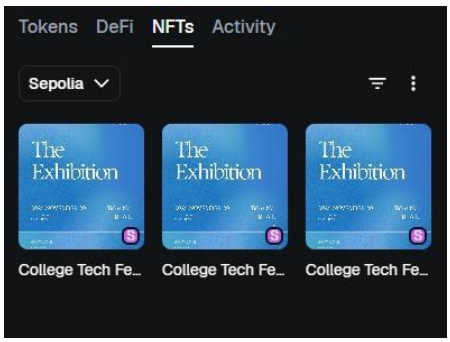




**** As applicable according to the experiment.***
Two sheets per experiment (10-20) to be used.

* Implementation Phase: Final Output (no error)





* Observation :

From this experiment we observed that :

- Remix IDE and MetaMask provide a beginner-friendly environment for smart contract deployment.
- Pinata ensures reliable and decentralized storage of NFT assets.
- Successful NFT minting requires accurate input of wallet address and metadata URI.
- MetaMask acts as both a deployment tool and wallet for holding the minted NFTs.
- The entire process demonstrates a clear workflow for self-minting NFTs without third-party platforms.

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