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 Experiement : **Mint it Yourself – NFT Creation and Deployment**

* Coding Phase: Pseudo Code / Flow Chart / Algorithm

☐ **Write the Smart Contract**

- Create an ERC721 contract using OpenZeppelin (ERC721URIStorage, Ownable).
- Add a mintTo(address to, string memory metadataURI) function.

☐ **Compile the Contract**

- Open **Remix IDE**.
- Paste the contract code and click **Compile**.

☐ **Deploy the Contract**

- Connect **MetaMask (Sepolia Testnet)**.
- Deploy with name, symbol, and your wallet address as the initial owner.
- Confirm deployment in MetaMask.

☐ **Upload Metadata to IPFS (Pinata)**

- Upload NFT image (e.g., JPEG/PNG).
- Create a **metadata.json** file with:
- metadata.json to IPFS and copy its CID.

☐ **Mint the NFT**

- Call mintTo your_wallet_address in Remix.
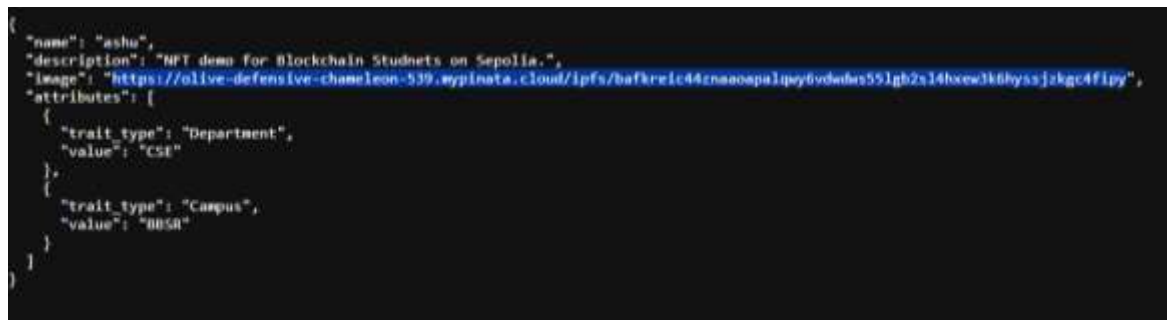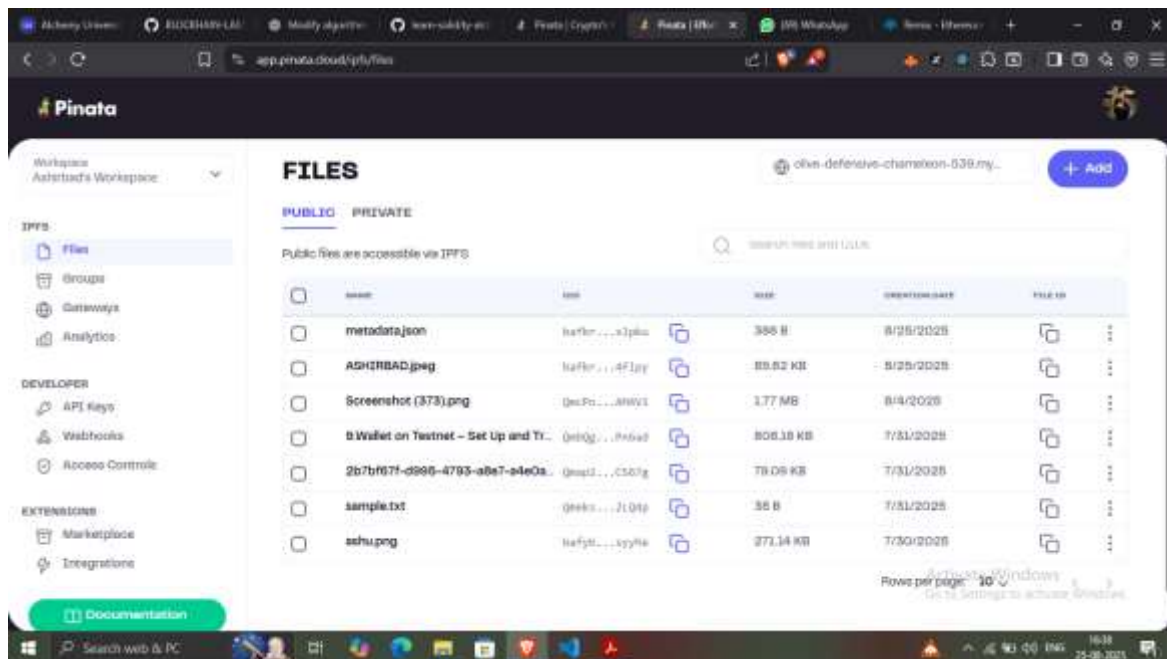- Confirm transaction in MetaMask.

☐ **Verify NFT in Wallet**

- Open MetaMask → NFTs tab.
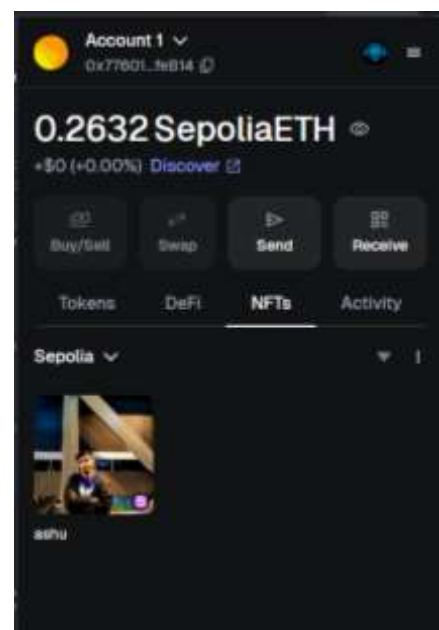- Import the contract address if NFT doesn't appear automatically.

Software used

1. MetaMask Wallet
2. Remix IDE.
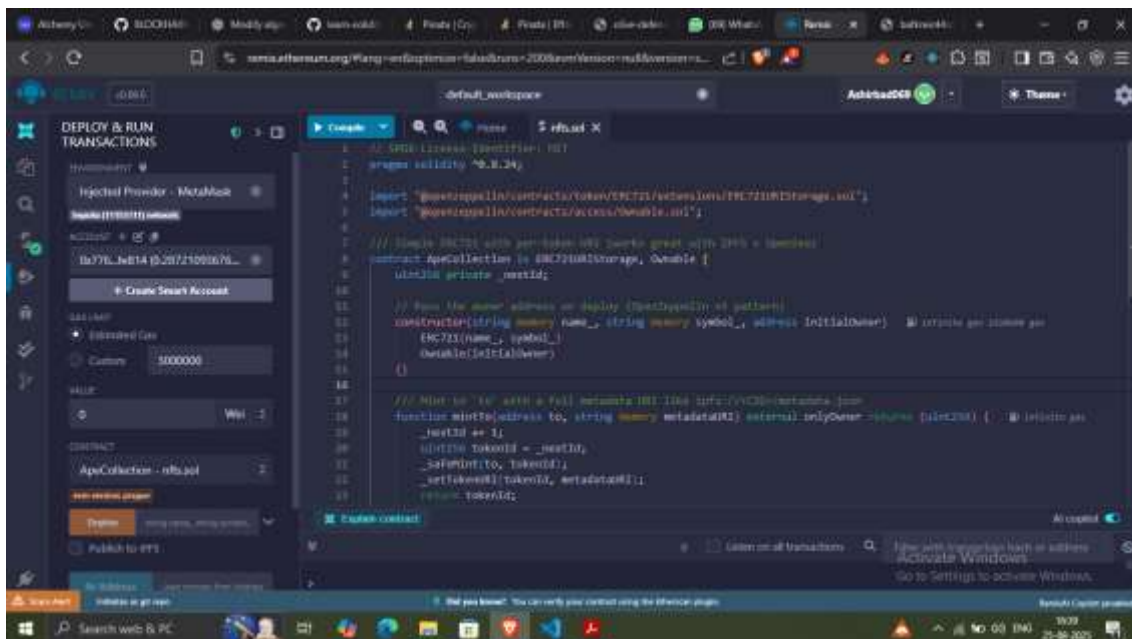3. MS Word.
4. Brave for researching.
5. https://pinata.cloud/

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

* **Implementation Phase: Final Output (no error)**

☐ NFT successfully minted on **Sepolia Testnet**.

☐ Metadata stored on **IPFS (Pinata)**.

☐ NFT visible in MetaMask wallet under **NFTs section**.

☐ Example metadata includes **name, description, image, and attributes**.

* **Implementation Phase: Final Output (no error)**

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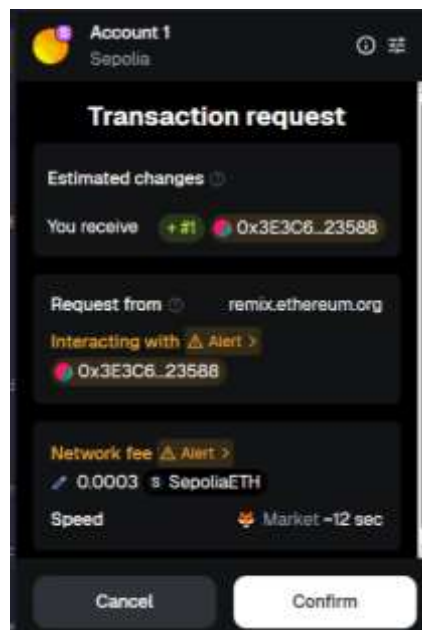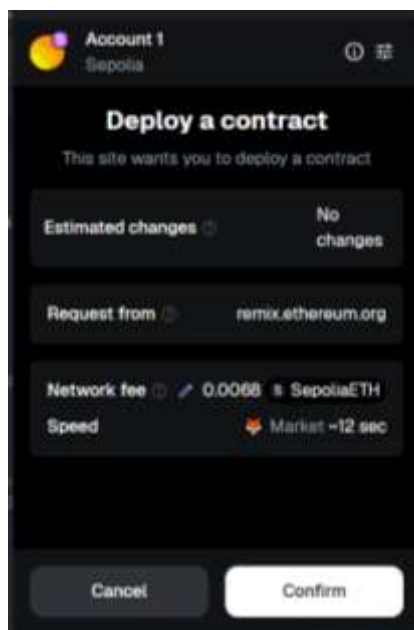
* Observations:

☐ Smart contract + IPFS are both essential for NFT creation.

☐ mintTo assigns ownership and metadata to a unique token ID.

☐ Metadata must follow ERC721 JSON format.

☐ Sepolia ETH is required for transactions.

☐ IPFS ensures decentralized, permanent storage.

☐ NFTs are **non-fungible** and unique.

☐ Wallets like MetaMask allow easy viewing of minted NFTs.

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.*