

Program:

```
pragma solidity 0.8.6;
//Importing two repos that will allow the minting process
import "https://github.com/0xcert/ethereum-erc721/src/contracts/tokens/nf-token-metadata.sol";
import "https://github.com/0xcert/ethereum-erc721/src/contracts/ownership/ownable.sol";
//Creating our smart contract
contract newNFT is NFTokenMetadata, Ownable
{
  constructor()
   nftName = "Image Of Me Sebu";
   nftSymbol = "IOMS";
  }
//function mint, takes in address, tokenId, uri
//external function to owner
  function mint(address _to, uint256 _tokenId, string calldata _uri) external onlyOwner
   super._mint(_to, _tokenId);
   super._setTokenUri(_tokenId, _uri);
 }
```

(Does not belong to me and isn't altered) found at this link Vvvvvv

```
pragma solidity ^0.8.5;
//https://www.youtube.com/watch?v=n6nEPaE7KZ8
//into the function you pass in two addresses ["address1", "address2"] then the merkle array of bytes32
//then we pass ion the root "top hash", the leaf, and the index
contract MerkleProof
    function verify(bytes32[] memory proof, bytes32 root, bytes32 leaf, uint index) public pure returns (bool)
        bytes32 hash = leaf;
        //Recompute Merkle Root
        //We'll utilize a for loop in order to iterate through the merkle root
        for (uint i = 0; i < proof.length; i++)</pre>
           ///If you look at a merkle tree it takes two hashs to get to the next level so this is just checking
           //That the left hash is even (it always is) otherwise it's the other way around
           if (index%2==0)
               hash = keccak256(abi.encodePacked(hash, proof[i]));
           }
           else
           {
                hash = keccak256(abi.encodePacked(proof[i], hash));
           ///This is our steps to working our way up the merkle tree, so 16,8,4,2,1(merkle root)
           index = index/2;
        }
        //This is the boolean that is returned if true!
        return hash == root;
```