LAB ASSIGNMENT 5

102015136

Vaneet Singla

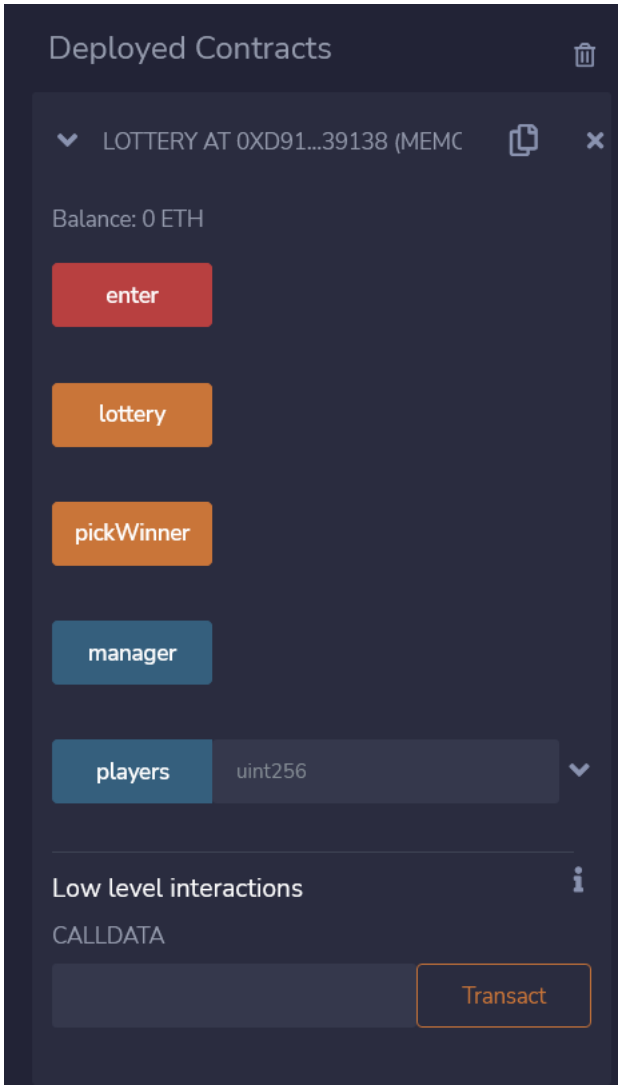
3ENC6

Design and Develop a Decentralized application for the Lottery auction and declare the winner.

Home lottery.sol

```
pragma solidity >=0.7.0 <0.9.0;

contract Lottery{
    address public manager;
    address payable[] public players;

    constructor(){
        manager = msg.sender;

    }

    function alreadyEntered() view private returns(bool){
        for(uint i=0;i<players.length;i++){
            if(players[i]==msg.sender)
            return true;
        }
        return false;
    }

    function enter() payable public{
        require(msg.sender!= manager,"Manager cannot enter");
        require(alreadyEntered() == false,"Player already eneterd");
        require(msg.value >=1 ether,"Minmum amount must be payed");
        players.push(payable(msg.sender));
    }

    function random() view private returns(uint){
        return uint(sha256(abi.encodePacked(block.difficulty,block.number,players)));

    }
```

```
    }
    function pickWinner() public{
        require(msg.sender==manager,"Only manager can pick the winner");
        uint index = random()%players.length;
        address contractAddress = address(this);
        players[index].transfer(contractAddress.balance);
        players = new address payable[](0);
    }
    function getPlayers() view public returns (address payable[] memory){
        return players;
    }
}
```


Deployed Contracts
LOTTERY AT 0XD91...39138 (MEMC
Balance: 0 ETH
enter
lottery
pickWinner
manager
players
uint256
Low level interactions
CALLDATA
Transact