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Roll No: 19BCE123

Batch: EL2

Course Name & Course Code: 2CSDE93 & Blockchain Technology

Practical-8

Aim: - To design and develop end-to-end decentralized applications (Dapps).

Code:-

Voting Smart Contract code

Voting.sol

```solidity
pragma solidity ^0.4.21;
contract Election {
    struct Candidate {
        string name;
        uint voteCount;
    }
    struct Voter {
        bool authorized;
        bool voted;
        uint vote;
    }
    address public owner;
    string public electionName;
    mapping(address => Voter) public voters;
    Candidate[] public candidates;
    uint public totalVotes;

    modifier ownerOnly() {
        require(msg.sender == owner);
        _; //remaining body of addCandidate to be executed
    }

    function Election(string _name) public {
        owner = msg.sender;
        electionName = _name;
    }
```

```solidity
    function addCandidate(string _name) ownerOnly public {
        candidates.push(Candidate(_name,0));
    }
    function getNumCandidate() public view returns(uint) {
        return candidates.length;
    }
    function authorize(address _person) ownerOnly public {
        voters[_person].authorized = true;
    }
    function vote(uint _voteIndex) public {
        require(!voters[msg.sender].voted);
        require(voters[msg.sender].authorized);
        voters[msg.sender].vote = _voteIndex;
        voters[msg.sender].voted = true;
        candidates[_voteIndex].voteCount += 1;
        totalVotes += 1;
    }
    function end() ownerOnly public {
        selfdestruct(owner);
    }
}
```

Output :-

✅	**[vm]** **from:** 0x5B3...eddC4 **to:** **value:** 0 wei **data:** 0x608...00000 **logs:** 0 **hash:** 0x140...15316

status	true Transaction mined and execution succeed
transaction hash	0x1406a0b2cd32b8597f2e4cd276bdb7005348f8c73ce91b311653b7bcc1d15316
from	0x5B38Da6a701c568545dCfcB03FcB875f56beddC4
gas	752840 gas
transaction cost	654643 gas
execution cost	654643 gas
input	0x608...00000
decoded output	-
val	0 wei

METAMASK

Account 1
0x410...9031 ⧉

⋮

0.0622 **GoerliETH**

⬇
Buy

↗
Send

⇄
Swap

Assets

Activity

⬠ Portfolio site

○ 0.0622 GoerliETH

〉

Don't see your token?
Import tokens

METAMASK

Account 1
0x410...9031 ⧉

⋮

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Don't see your token?
Import tokens

D app

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Edit + New Dapp

Contract	0x1406a0b2cd32b8597f2e4cd276bdb7005348f8c73ce91b311653b7bcc1d15316
ABI	decrement, increment, initialize, get, ...

Read Write

get

get