

${\bf 2CSDE93-Block chain\ Technology}$

Practical 5

Aim: Implementing Smart Contract

Author: Darshil Maru 20BCE514

To perform thorough study and installation of Remix IDE and Truffle IDE for deploying Smart Contracts and Decentralized Applications (dapps) and create and deploy a Smart Contract for any application such as finance, healthcare etc.

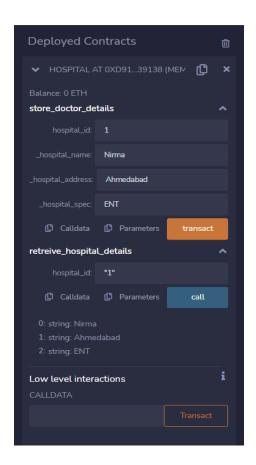
Code:

```
pragma solidity >=0.4.22 <0.7.0;</pre>
* @title Hospital Registration
* @dev Store & retreive Hospital details
*/
contract Hospital {
      mapping(uint256 => hospital) hospitallist;
     struct hospital{
         string hospital name;
         string hospital address;
         string hospital spec;
     hospital h;
     address owner;
      constructor() public {
          owner = msg.sender;
      }
      // modifier to give access only to hospital
      modifier isOwner() {
         require(msg.sender == owner, "Access is not allowed");
```

```
/**
     * @dev Store hospital details
     * @param hospital id hospital registration id
     * @param hospital name name of hospital
     * @param hospital spec hospital specialisation
     * @param hospital address hospital address
     * */
     function store doctor details (uint256 hospital id, string memory
hospital name, string memory hospital address, string memory
hospital spec) public isOwner {
         h.hospital_name = _hospital_name;
         h.hospital_address = _hospital_address;
         h.hospital_spec = _hospital_spec;
        hospitallist[hospital id] = h;
         }
           /**
     * @dev Retreive hospital details
     * @param hospital id hospital registration id
         function retreive_hospital_details(uint256 hospital_id) public
view returns (string memory,string memory,string memory) {
     hospital memory h = hospitallist[hospital id];
     return (h.hospital name, h.hospital address, h.hospital spec);
```

```
}
```

Output:



Conclusion : This practical gives an overview about remix IDE, how to write smart contracts using solidity and how to deploy it. Smart contracts are essentially programmes that run when certain criteria are satisfied and are maintained on a blockchain.