

Name : Gaurav Shirke

BE Computer-B

Roll No :21CO113

Practical No.4

CODE:

```
// SPDX-License-Identifier: MIT pragma solidity
>=0.7.0; contract StudentManagement { struct
Student { uint256 stud_id; // Changed to uint256 for
positive IDs string Name; string Department;
}
Student[] private Students; // Made it private for encapsulation
// Payable constructor to allow Ether transfer constructor()
payable {
// Optional: Initialize state if needed
}
function addStudent(uint256 stud_id, string memory Name, string memory Department)
public {
Student memory stud = Student(stud_id, Name, Department);
Students.push(stud);
} function getStudent(uint256 stud_id) public view returns (string memory, string
memory) { for (uint256 i = 0; i < Students.length; i++) { if (Students[i].stud_id ==
stud_id) {
return (Students[i].Name, Students[i].Department);
}
}
```

```

return ("Name Not Found", "Department Not Found");

}

// Receive function to handle plain Ether transfers receive()

external payable {

// Optional: Handle received Ether, e.g., logging, storing info, etc.

}

// Fallback function fallback()

external payable {

// This can be used for specific handling if necessary

// Example: Adding a default student

Students.push(Student(7, "XYZ", "Mechanical"));

}

}

```

OUTPUT:

The screenshot displays the Remix IDE interface with the following components:

- Left Panel (DEPLOY & RUN TRANSACTIONS):**
 - Deploy:** Includes buttons for "Deploy" and "Publish to IPFS".
 - At Address:** Includes a "Load contract from Address" button.
 - Transactions recorded:** Shows 3 transactions.
 - Pinned Contracts (network: vm-cancun):** Displays "No pinned contracts found for selected workspace & network".
 - Deployed/Unpinned Contracts:**
 - STUDENTMANAGEMENT AT:** Shows a balance of 3 ETH.
 - addStudent:** Input field contains "vmc256 stud_id string h".
 - getStudent:** Input field contains "vmc256 stud_id".
 - Low level interactions:** Includes a "Transact" button.
- Center Panel (Code Editor):** Displays the Solidity code for the `StudentManagement` contract, including the `receive()` and `fallback()` functions.
- Right Panel (Console):**
 - Shows the message "creation of StudentManagement pending...".
 - Displays two transaction logs:
 - Transaction 1: [vm] from: 0x583...eddC4 to: StudentManagement.(constructor) value: 0 wei data: 0x608...a0833 logs: 0 hash: 0xa71...e7468
 - Transaction 2: [vm] from: 0x482...c02db to: StudentManagement.(constructor) value: 3000000000000000000 wei data: 0x608...a0833 logs: 0 hash: 0x9d0...57159