

Assignment 4 :-

Write a program in solidity to create Student data. Use the following constructs:

- Structures
- Arrays
- Fallback

Deploy this smart contract on Ethereum and Observe the transaction fee and Gas values.

Program:

```
pragma solidity ^0.8.0;
contract Student_Class
{
    struct Student
    {
        string prn;
        uint roll_no;
        string name;
    }

    Student[] private arr;

    event log(string msg);

    // Fallback function : used when the function call does not match any of the
    functions
    receive() external payable
    {
        emit log("In fallback.");
    }

    function add_student(uint roll, string memory name, string memory prn)
    public { //memory = persist data till function execution completes
        arr.push(Student(prn, roll, name));
        emit log("New student added");
    }

    function total_students() public view returns (uint) {
```

```

return arr.length;
}

```

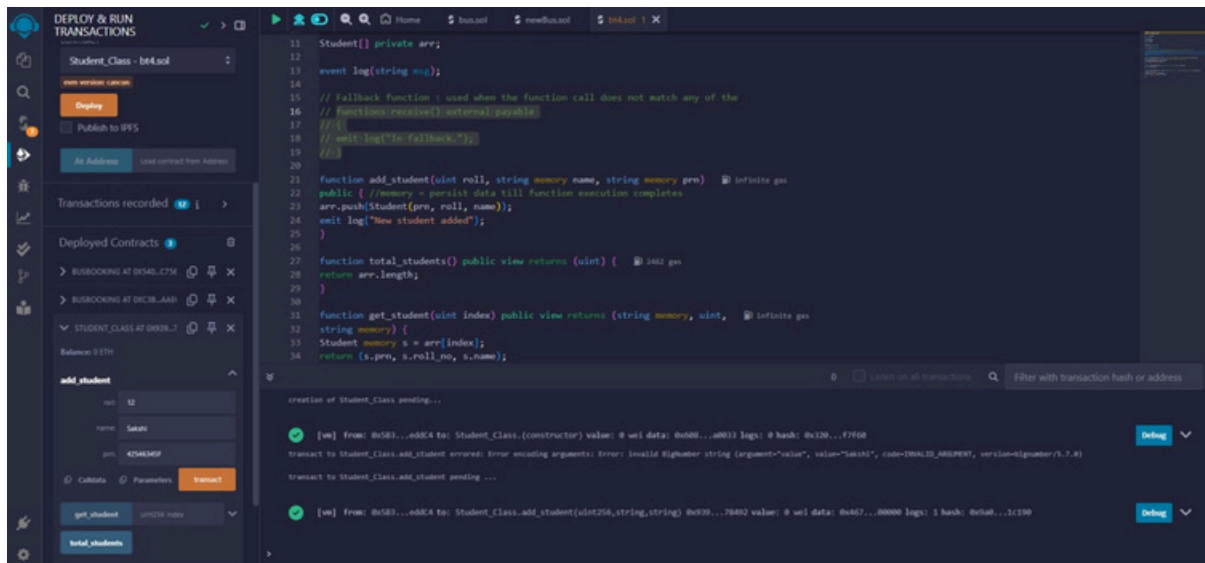
```

function get_student(uint index) public view returns (string memory, uint,
string memory) {
    Student memory s = arr[index];
    return (s.prn, s.roll_no, s.name);
}
}

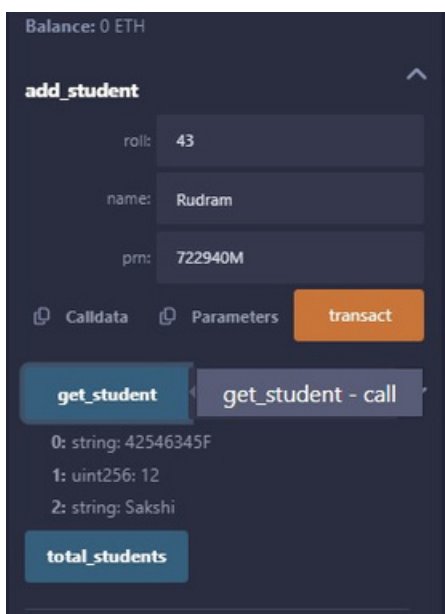
```

Output:

1. Enter the student details and execute the add_student function.



2. Enter the array index, to get student details using get_student.



3. Use total_students to view the no.of students added in the array.

The screenshot shows a web application interface with a dark theme. At the top, there is a section titled "add_student" with a small upward arrow icon. Below this title, there are three input fields: "roll:" with the value "43", "name:" with the value "Rudram", and "pno:" with the value "722940M". Below these fields are three tabs: "Calldata", "Parameters", and "transact". The "transact" tab is highlighted in orange. Below the tabs, there is a section titled "get_student" with a dropdown menu showing the value "0" and a downward arrow icon. Below this, there is a list of data: "0: string: 42546345F", "1: uint256: 12", and "2: string: Sakshi". Below this list, there is a section titled "total_students" with a dropdown menu showing the value "0" and a downward arrow icon. Below this, there is a list of data: "0: uint256: 3".