PRACTICAL NO 4

Aim: Write a program in solidity to create Student data. Use the following constructs: • Structures • Arrays • Fallback Deploy this as smart contract on Ethereum and Observe the transaction fee and Gas values.

StudentData.sol

```
//SPDX-License-Identifier: MIT
pragma solidity ^0.8.18;

contract StudentDetails {
address public owner;
mapping (address=>student) students;
constructor() {
owner = msg.sender;
}
modifier onlyOwner{
require(msg.sender == owner);
_;
}
struct student{
address StudentId;
string name;
string course;
uint256 marks1;
uint256 marks2;
uint256 marks3;
uint256 totalMarks;
uint256 percentage;
bool isExist;
}

function register(address StudentId, string memory name, string memory course, uint256
marks1, uint256 marks2, uint256 marks3) public onlyOwner{
   require(students[StudentId].isExist == false,"Already Registered");
   uint256 totalMarks;
```

```
    uint256 percentage;
    totalMarks = marks1+marks2+marks3;
    percentage = (totalMarks/3);
    students[StudentId] =
student(StudentId,name,course,marks1,marks2,marks3,totalMarks,percentage,true);
}

function getStudentDetails(address StudentId) public view returns(address, string memory,
string memory, uint256,uint256) {
    return(
    students[StudentId].StudentId,
    students[StudentId].name,
    students[StudentId].course,
    students[StudentId].totalMarks,
    students[StudentId].percentage);
}
}
```