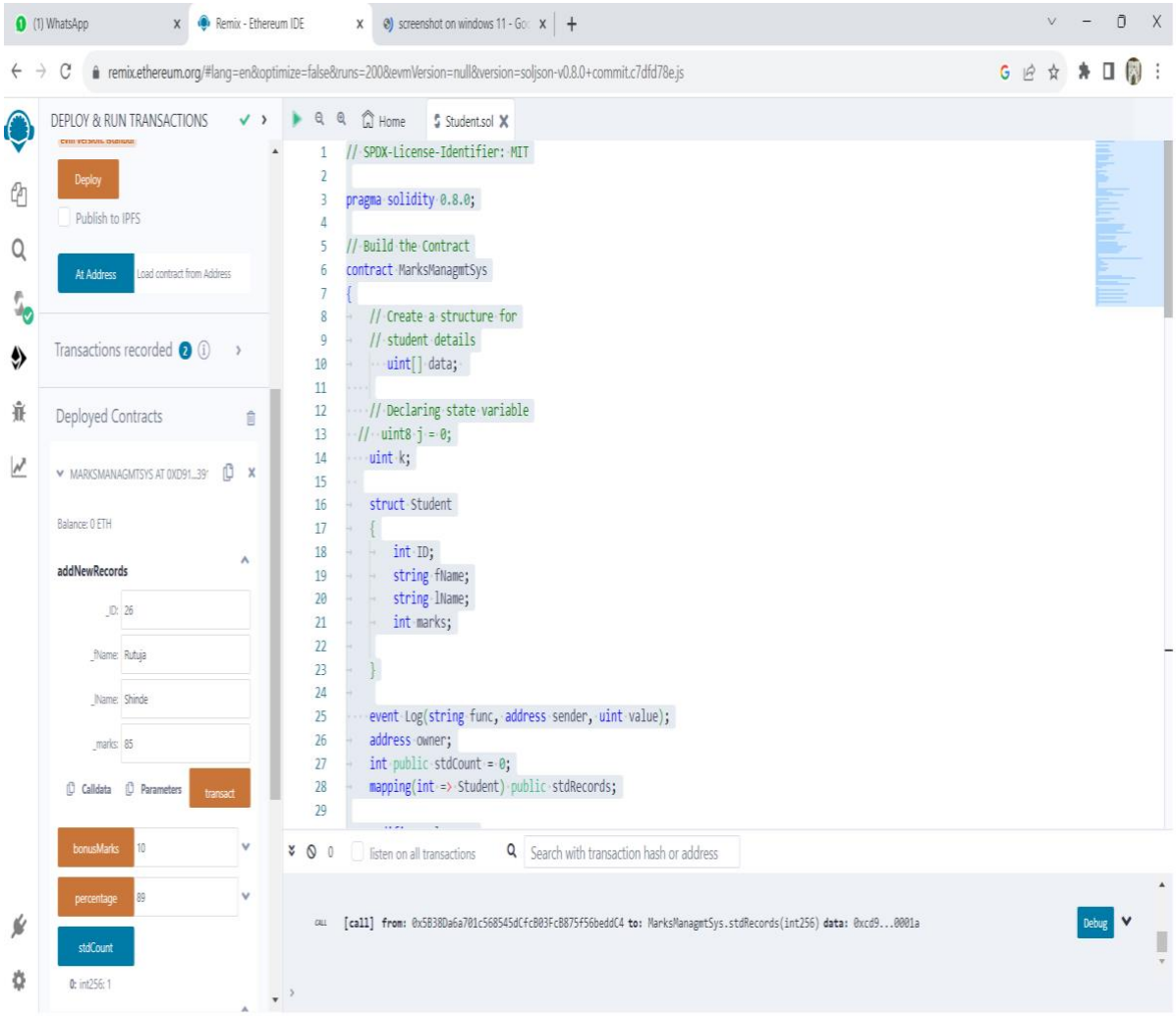
```
//4. Write a program in solidity to create Student data. Use the following constructs:
//Structures
//Arrays
//Fallback
//Deploy this as smart contract on Ethereum and Observe the transaction fee and Gas values.
pragma solidity 0.8.0;

// Build the Contract
contract MarksManagmtSys
{
        // Create a structure for
        // student details
          uint[] data;

   // Declaring state variable
  //  uint8 j = 0;
   uint k;

        struct Student
        {
                int ID;
                string fName;
                string lName;
                int marks;

        }

   event Log(string func, address sender, uint value);
        address owner;
        int public stdCount = 0;
        mapping(int => Student) public stdRecords;
```

```
modifier onlyOwner
{
        require(owner == msg.sender);
        _;
}
constructor()
{
        owner=msg.sender;
}

// Create a function to add
// the new records

function addNewRecords(int _ID,
                                        string memory _fName,
                                        string memory _lName,
                                        int _marks
                                        ) public onlyOwner
{
        // Increase the count by 1
        stdCount = stdCount + 1;

        // Fetch the student details
        // with the help of stdCount
        stdRecords[stdCount] = Student(_ID, _fName,
                                                        _lName,
                                                        _marks
                                                        );

}
```

```
        function percentage(uint k) public returns(uint[] memory){
    // do{
     //   j++;
      data.push(k);
    // }
     //while(j < 5) ;
     return data;
    }

        // Create a function to add bonus marks
        function bonusMarks(int _bonus) public onlyOwner
        {
            stdRecords[stdCount].marks =
                                    stdRecords[stdCount].marks + _bonus;

        }
        fallback() external payable
        {
            emit Log("fallback", msg.sender, msg.value);
        }
        receive() external payable
        {
            emit Log("receive", msg.sender, msg.value);
        }
}
```


(1) WhatsApp
Remix - Ethereum IDE
screenshot on windows 11 - Go
remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.0+commit.c7dfd78e.js
DEPLOY & RUN TRANSACTIONS
Deploy
Publish to IPFS
At Address
Load contract from Address
Transactions recorded 2
Deployed Contracts
MARKSMANAGMTSYS AT 0XD91...39
Balance: 0 ETH
addNewRecords
_ID: 26
_fName: Rutuja
_lName: Shinde
_marks: 85
Calldata
Parameters
transact
bonusMarks 10
percentage 89
stdCount
0: int256: 1
Home
Student.sol
// SPDX-License-Identifier: MIT
pragma solidity 0.8.0;
// Build the Contract
contract MarksManagmtSys
{
// Create a structure for
// student details
uint[] data;
// Declaring state variable
// uint8 j = 0;
uint k;
struct Student
{
int ID;
string fName;
string lName;
int marks;
}
event Log(string func, address sender, uint value);
address owner;
int public stdCount = 0;
mapping(int => Student) public stdRecords;
listen on all transactions
Search with transaction hash or address
[call] from: 0x5B38Da6a701c568545dCfcB03FcB875f56beddC4 to: MarksManagmtSys.stdRecords(int256) data: 0xcd9...0001a
Debug