

BCT PRACTICAL 3

PS - Write a smart contract on a test network, for Bank account of a customer for following operations: • Deposit money • Withdraw Money • Show balance

Solution-

Bank.sol

```
// SPDX-License-Identifier: MIT
```

```
pragma solidity ^0.8.18;
```

```
contract Bank {
```

```
    // Mapping to store balances of each customer  
    (address)
```

```
    mapping(address => uint256) private balances;
```

```
    // Event logs
```

```
    event Deposit(address indexed account, uint256  
amount);
```

```
    event Withdraw(address indexed account,  
uint256 amount);
```

```
// Deposit money into your account  
function deposit() public payable {  
    require(msg.value > 0, "Deposit amount must  
be greater than zero");  
    balances[msg.sender] += msg.value;  
    emit Deposit(msg.sender, msg.value);  
}
```

```
// Withdraw money from your account  
function withdraw(uint256 amount) public {  
    require(amount > 0, "Withdraw amount must  
be greater than zero");  
    require(balances[msg.sender] >= amount,  
"Insufficient balance");  
  
    balances[msg.sender] -= amount;  
    payable(msg.sender).transfer(amount);
```

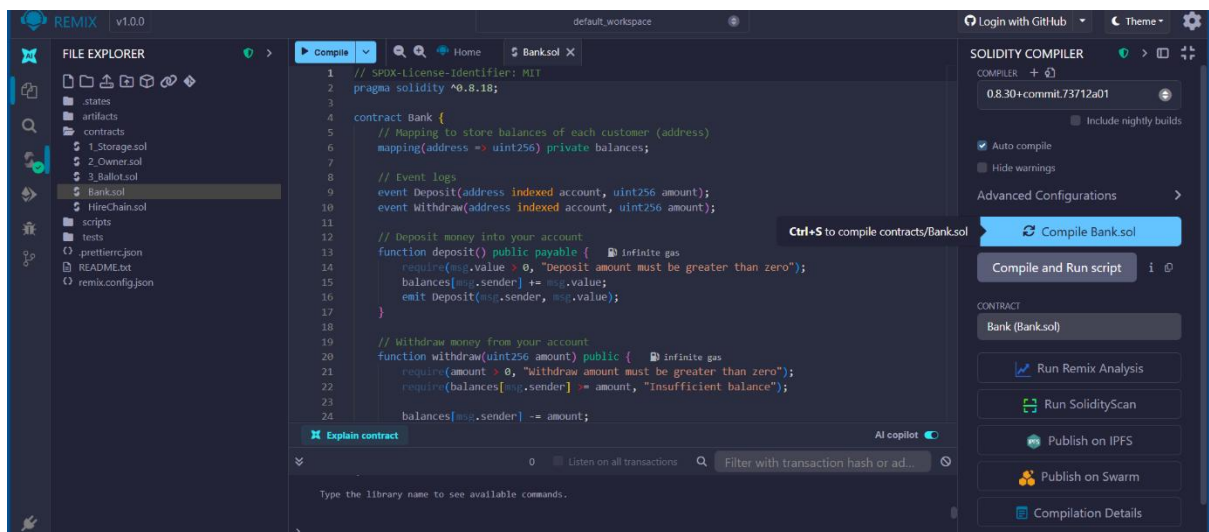
```

        emit Withdraw(msg.sender, amount);
    }

    // Show your account balance
    function getBalance() public view returns
    (uint256) {
        return balances[msg.sender];
    }
}

```

OUTPUT-



REMITXv1.0.0

default_workspace

Login with GitHubTheme

DEPLOY & RUN TRANSACTIONS

ENVIRONMENT

Remix VM (Prague)

ACCOUNT

0x5B3...eddC4 (100 ETH)

+ Authorize Delegation

GAS LIMIT

Estimated Gas

Custom

3000000

VALUE

0

Wei

CONTRACT

Bank - contracts/Bank.sol

even version: prague

Deploy

Publish to IPFS

At Address

Load contract from Address

Compile

Home

Bank.sol

1

// SPDX-License-Identifier: MIT

2

pragma solidity ^0.8.18;

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contract Bank {

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// Mapping to store balances of each customer (address)

7

mapping(address => uint256) private balances;

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// Event logs

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event Deposit(address indexed account, uint256 amount);

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event Withdraw(address indexed account, uint256 amount);

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// Deposit money into your account

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function deposit() public payable {

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require(msg.value > 0, "Deposit amount must be greater than zero");

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balances[msg.sender] += msg.value;

18

emit Deposit(msg.sender, msg.value);

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// Withdraw money from your account

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function withdraw(uint256 amount) public {

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require(amount > 0, "Withdraw amount must be greater than zero");

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require(balances[msg.sender] >= amount, "Insufficient balance");

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balances[msg.sender] -= amount;

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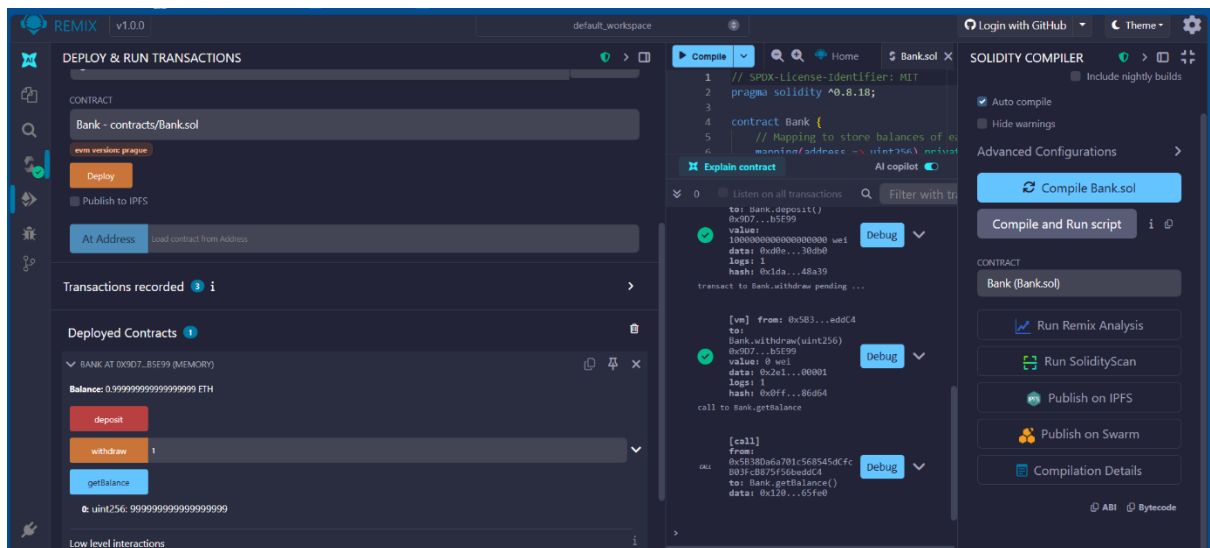
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BCT Prac 4

CODE

```
// SPDX-License-Identifier: UNLICENSED
pragma solidity >=0.7.0 <0.9.0;

contract MarksManagmtSys {
    struct StudentStruct {
        uint ID;
        string fName;
        string lName;
        uint marks;
    }

    address public owner;
    uint public stdCount = 0;
    StudentStruct[] public stdRecords;

    constructor() {
        owner = msg.sender;
    }

    function addNewRecords(
        uint _ID,
        string memory _fName,
        string memory _lName,
        uint _marks
    ) public {
        stdCount++;
        stdRecords.push(StudentStruct(_ID, _fName, _lName, _marks));
    }
}
```

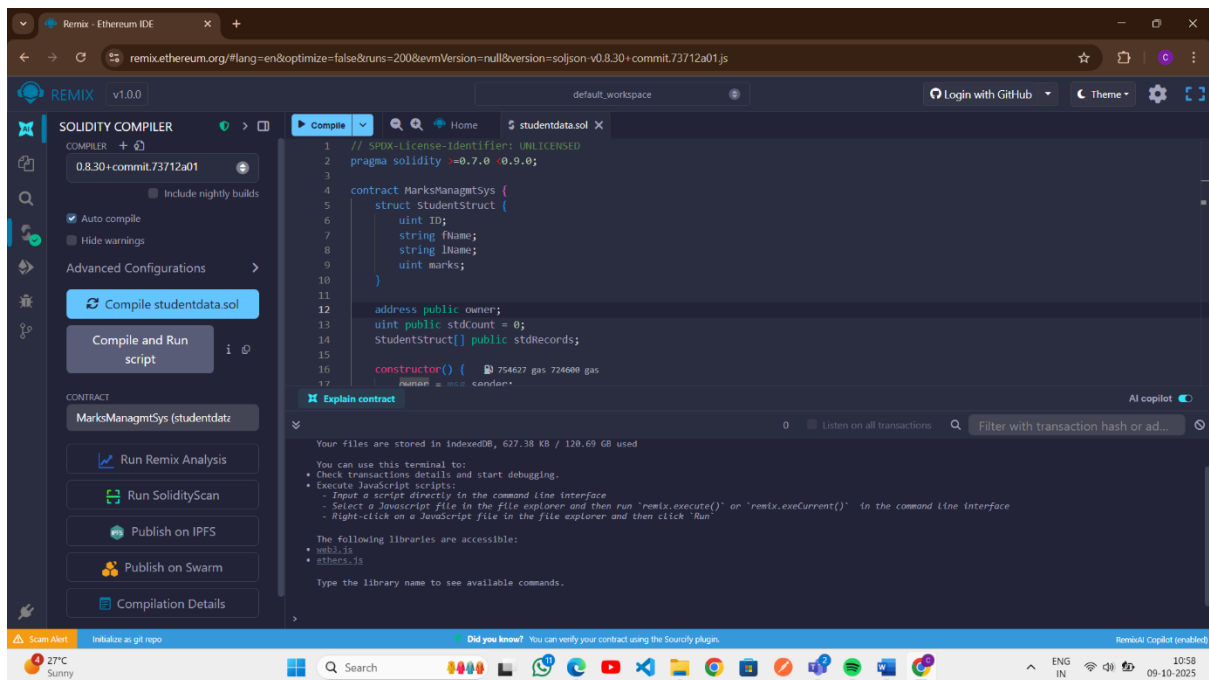
```
}
```

```
function getAllRecords() public view returns (StudentStruct[] memory) {  
    StudentStruct[] memory records = new StudentStruct[](stdRecords.length);  
    for (uint i = 0; i < stdRecords.length; i++) {  
        records[i] = stdRecords[i];  
    }  
    return records;  
}
```

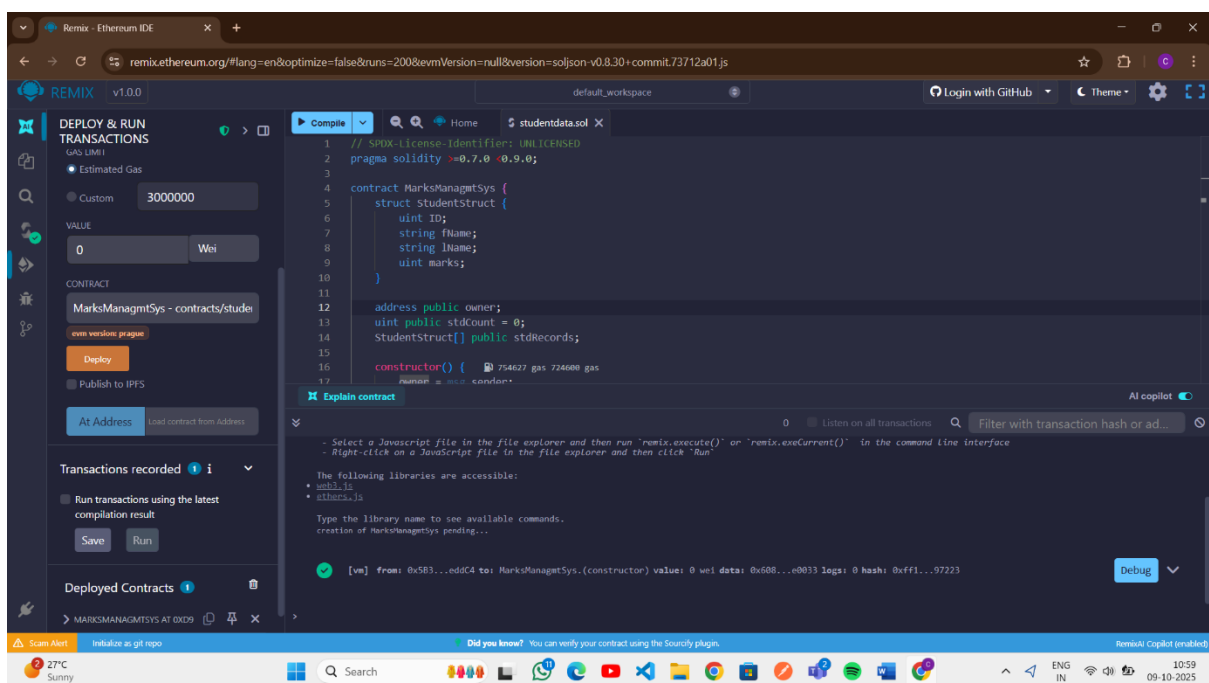
```
// fallback function to handle calls to non-existing functions  
fallback() external payable {  
    // Called when no function matches  
}
```

```
// receive function to handle plain ETH transfers  
receive() external payable {  
    // Accept ETH transfers  
}  
}
```

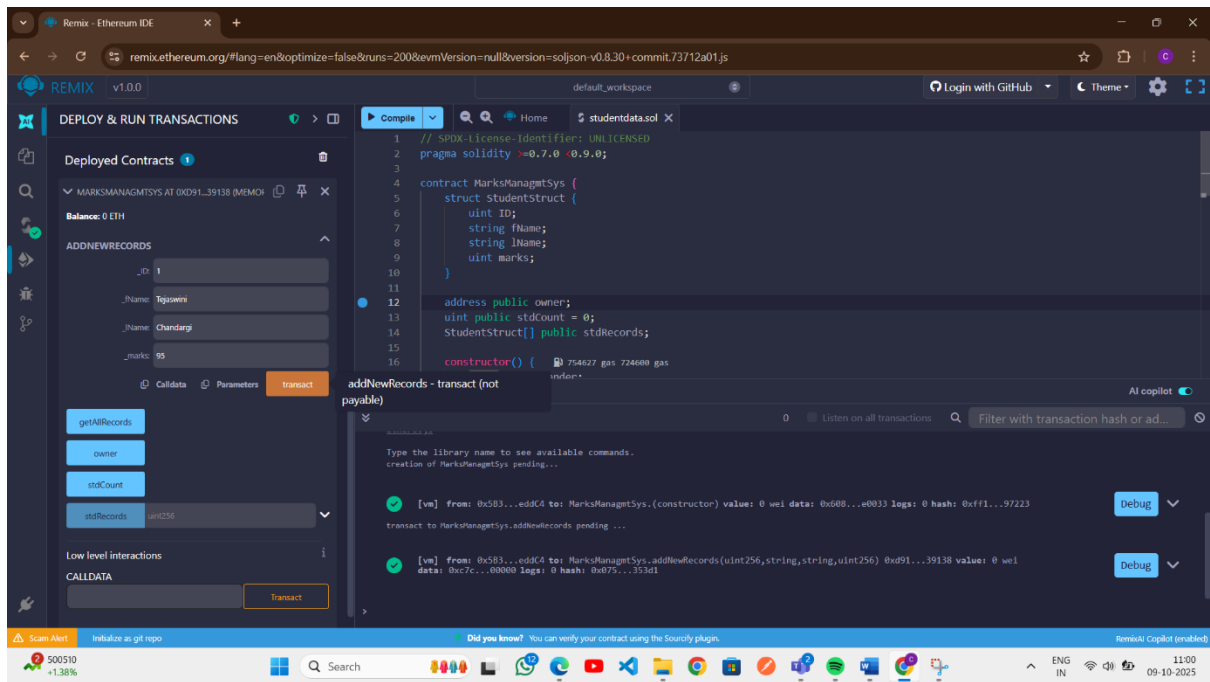
OUTPUT



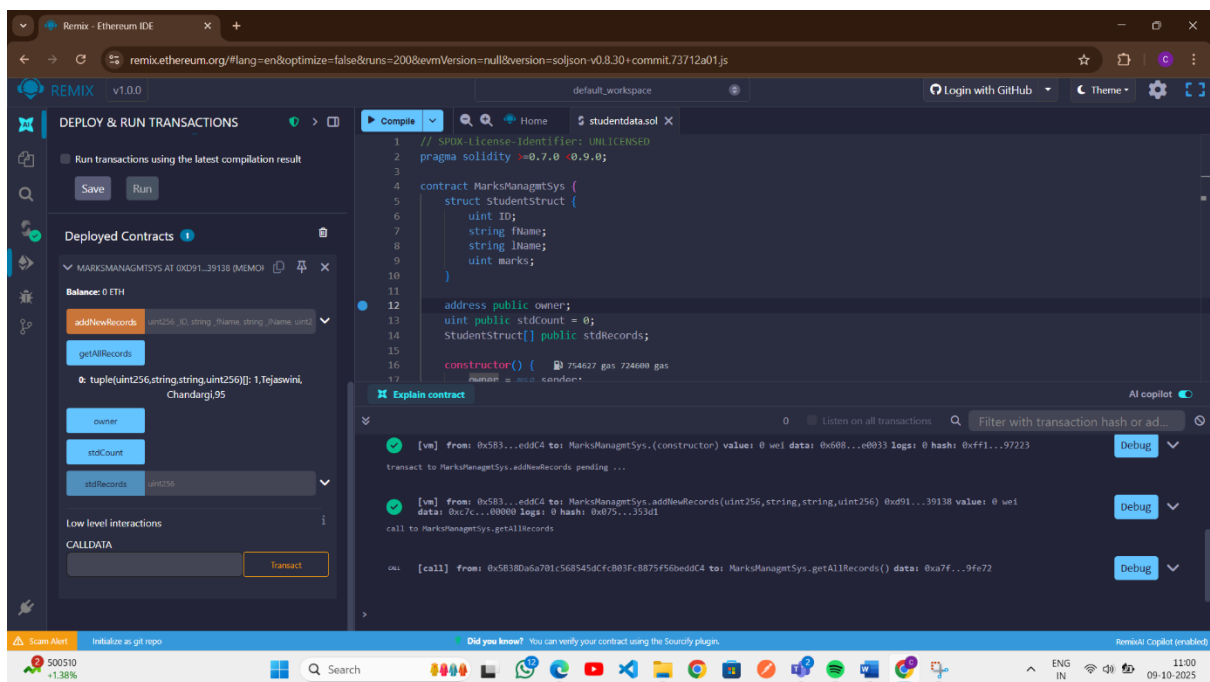
Compile studentdata.sol



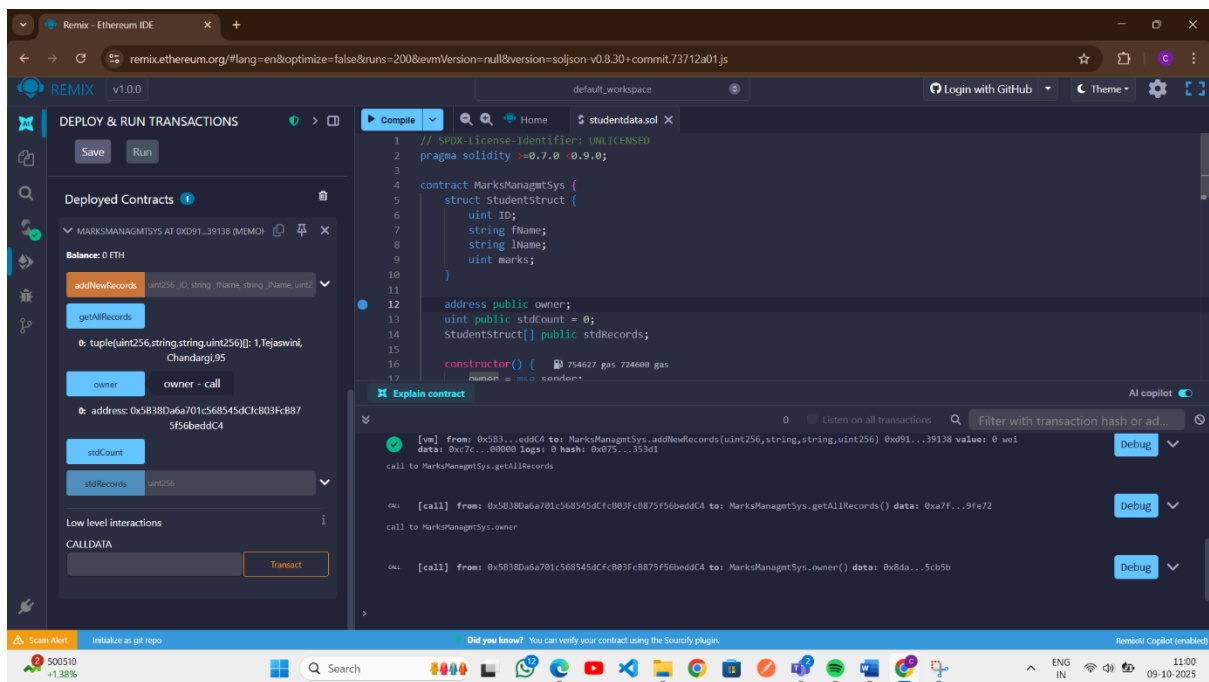
Deploy studentdata.sol



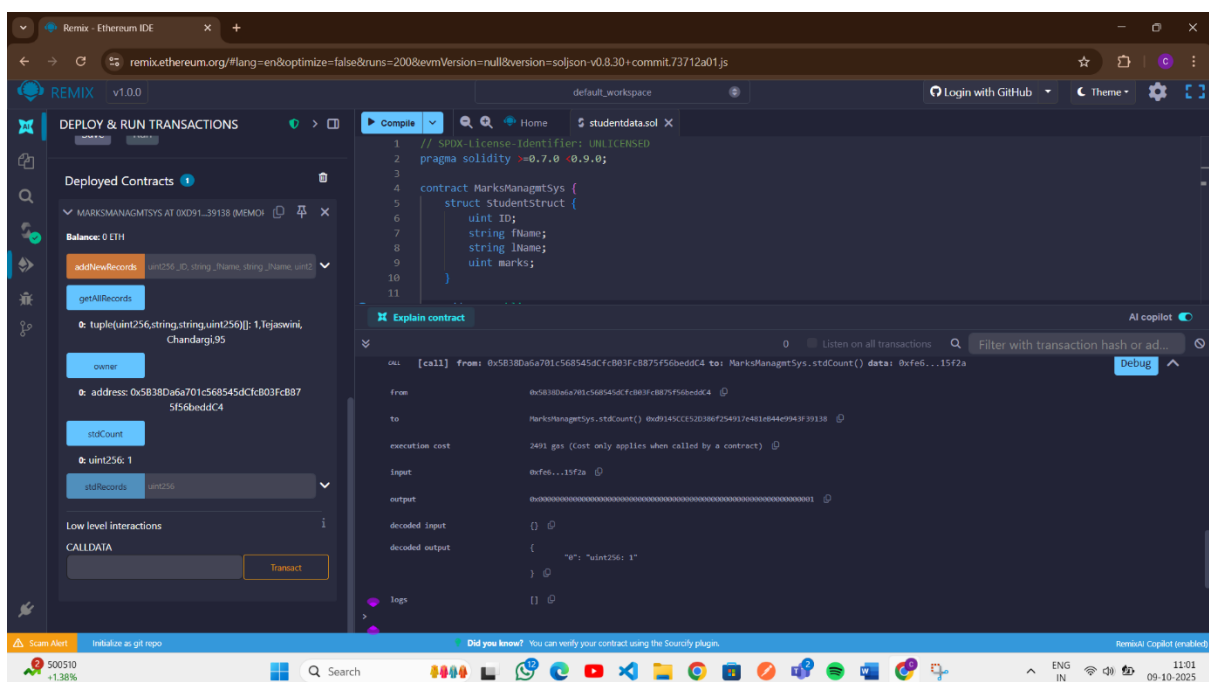
Function addNewRecords to add students data



Function getAllRecords to fetch all students data



Fetch Owner



Function to get the number of student entries

