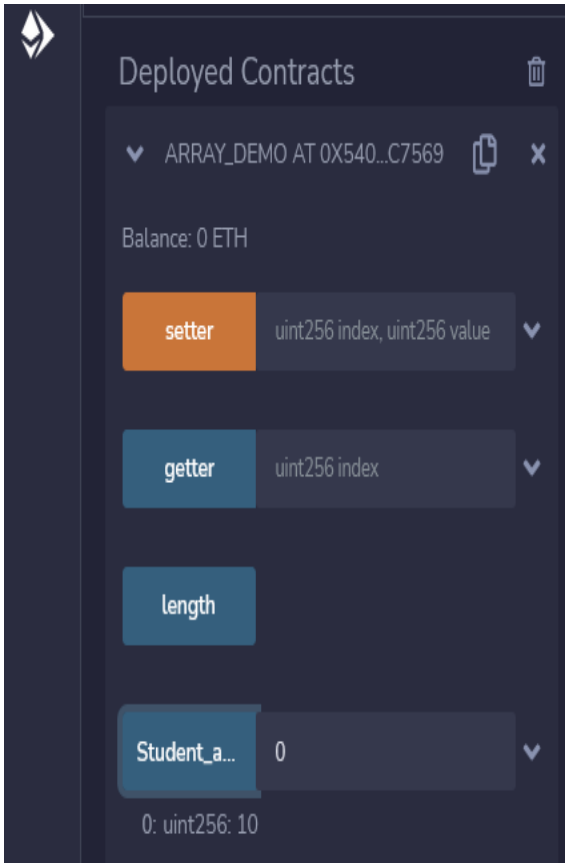
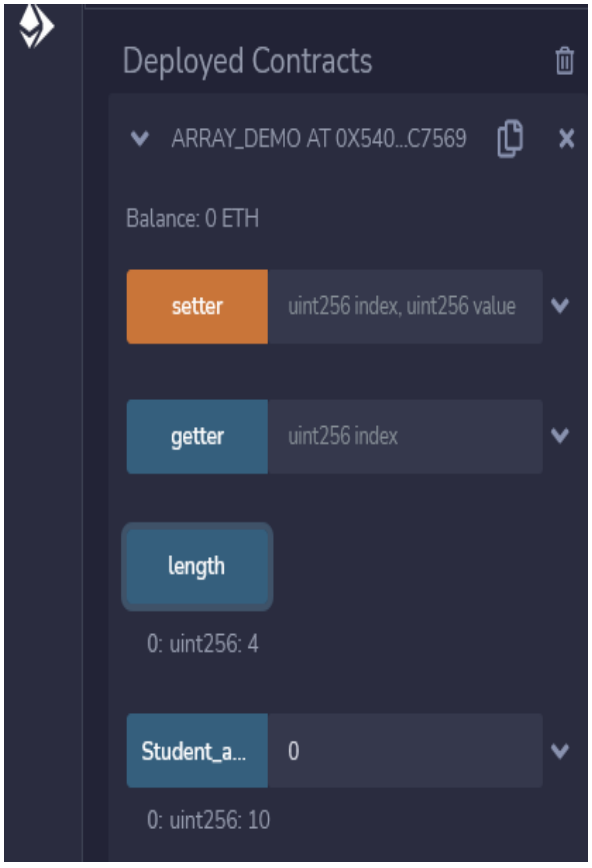
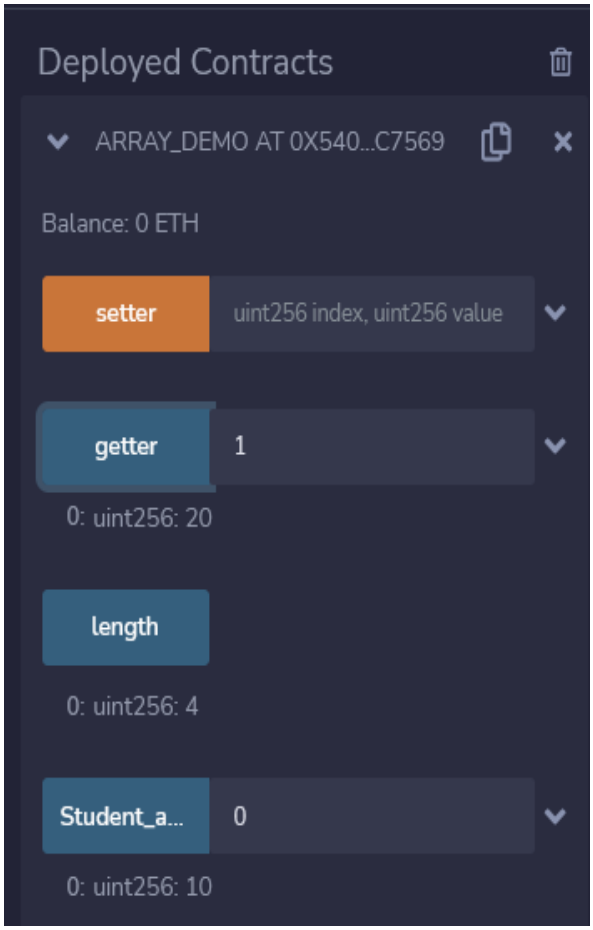
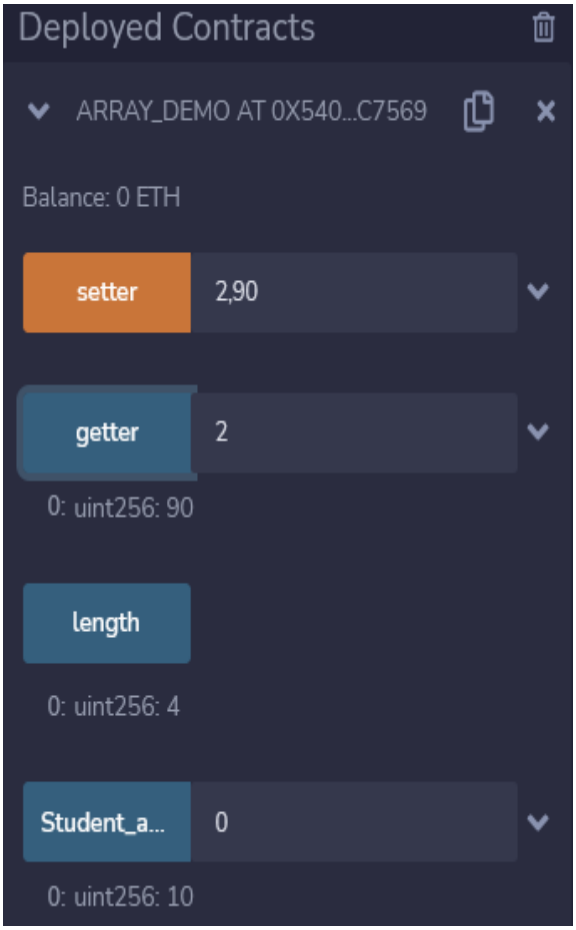
Write a program in solidity to create Student data. Use the following constructs: • Structures • Arrays • Fallback Deploy this as smart contract on Ethereum and Observe the transaction fee and Gas values.

```
//SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.5.0 < 0.9.0;

contract Array_Demo
{
    //Fixed array
    uint[4] public Student_array_roll=[10,20,30,40];

    function setter(uint index,uint value)public
    {
        Student_array_roll[index]=value;
    }

    function getter(uint index) view public
returns(uint)
    {
        uint value=Student_array_roll[index];
        return value;
    }

    function length() public view returns(uint)
    {
        return Student_array_roll.length;
    }
}
```

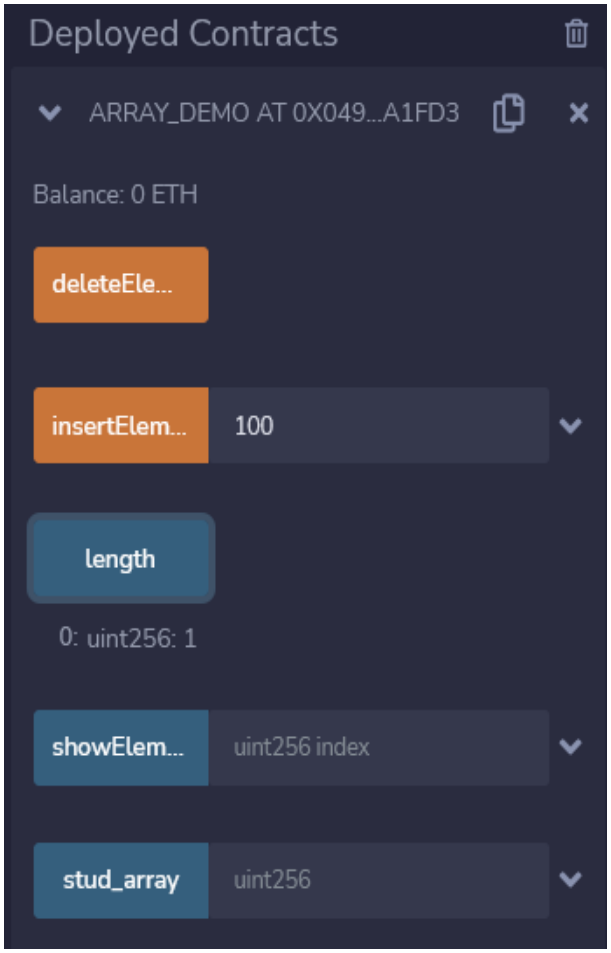

Deployed Contracts
ARRAY_DEMO AT 0X540...C7569
Balance: 0 ETH
setter
uint256 index, uint256 value
getter
uint256 index
length
Student_a...
0
0: uint256: 10

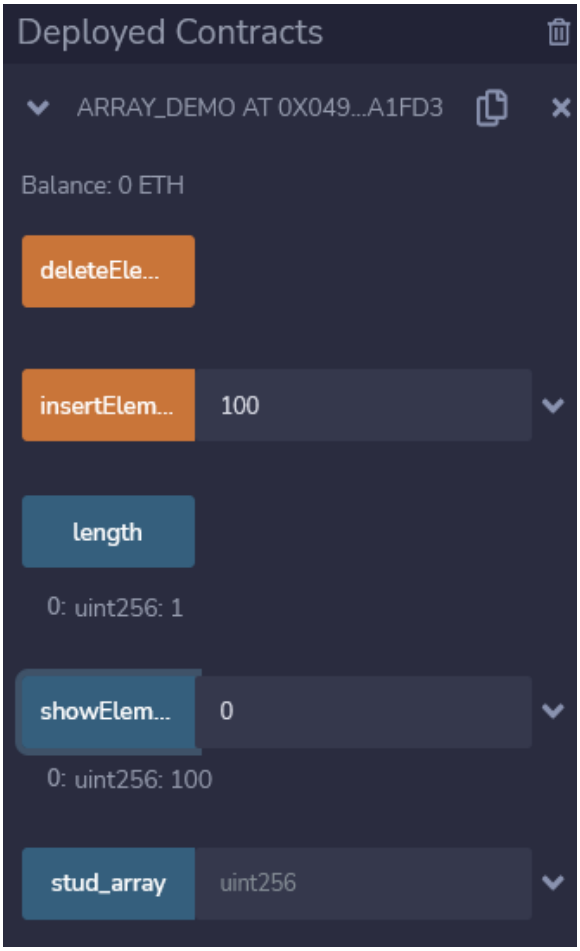

Deployed Contracts
ARRAY_DEMO AT 0X540...C7569
Balance: 0 ETH
setter
uint256 index, uint256 value
getter
uint256 index
length
0: uint256: 4
Student_a...
0
0: uint256: 10

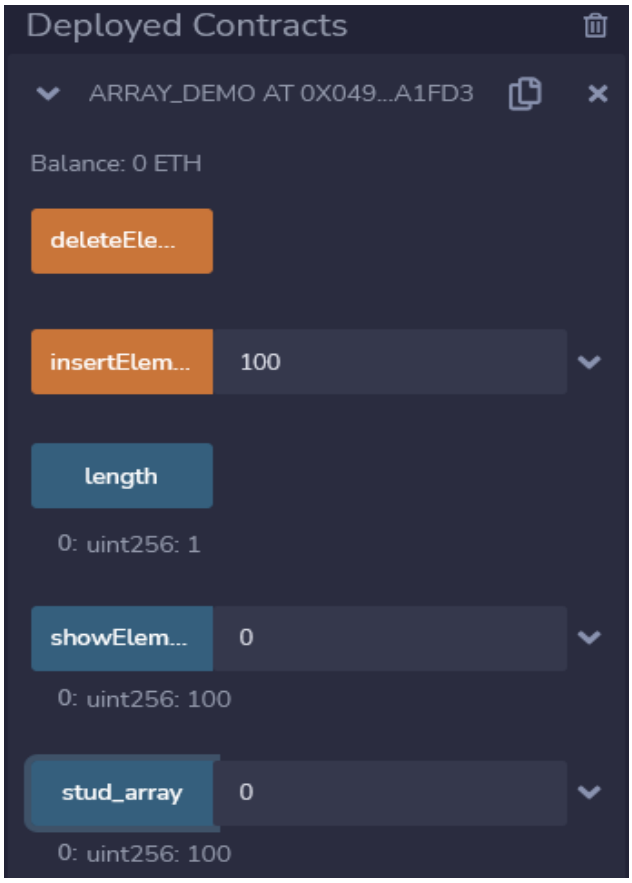

Deployed Contracts
ARRAY_DEMO AT 0X540...C7569
Balance: 0 ETH
setter
uint256 index, uint256 value
getter
1
0: uint256: 20
length
0: uint256: 4
Student_a...
0
0: uint256: 10

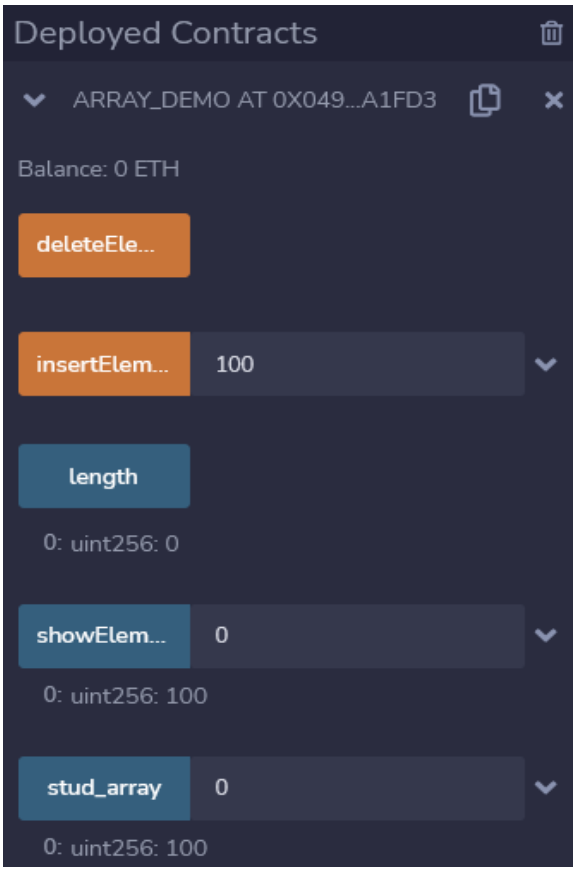

Deployed Contracts
ARRAY_DEMO AT 0X540...C7569
Balance: 0 ETH
setter
2,90
getter
2
0: uint256: 90
length
0: uint256: 4
Student_a...
0
0: uint256: 10

```
//SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.5.0 < 0.9.0;
contract Array_Demo{

    uint[] public stud_array;

    function insertElement(uint value) public
    {
        stud_array.push(value);
    }
    function showElement(uint index) public view
returns(uint)
    {
        uint value=stud_array[index];
        return value;
    }
    function length() public view returns(uint)
    {
        return stud_array.length;
    }
    function deleteElement() public
    {
        stud_array.pop();
    }

}
```


Deployed Contracts
ARRAY_DEMO AT 0X049...A1FD3
Balance: 0 ETH
deleteEle...
insertElem...
100
length
0: uint256: 1
showElem...
uint256 index
stud_array
uint256


Deployed Contracts
ARRAY_DEMO AT 0X049...A1FD3
Balance: 0 ETH
deleteEle...
insertElem...
100
length
0: uint256: 1
showElem...
0
0: uint256: 100
stud_array
uint256

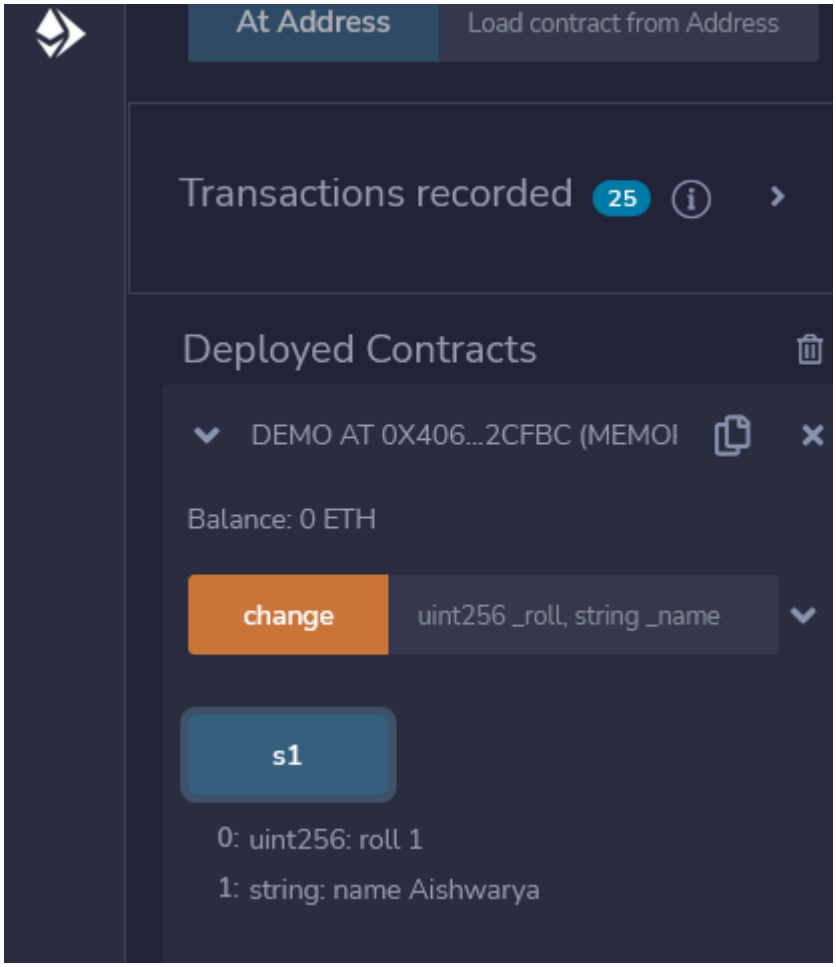

Deployed Contracts
ARRAY_DEMO AT 0X049...A1FD3
Balance: 0 ETH
deleteEle...
insertElem...
100
length
0: uint256: 1
showElem...
0
0: uint256: 100
stud_array
0
0: uint256: 100

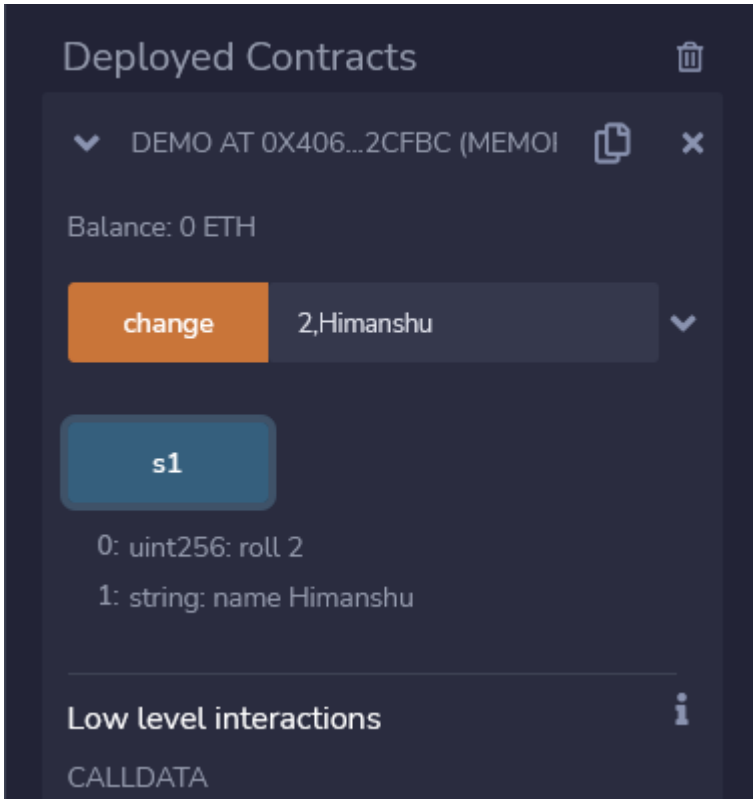

Deployed Contracts
ARRAY_DEMO AT 0X049...A1FD3
Balance: 0 ETH
deleteEle...
insertElem...
100
length
0: uint256: 0
showElem...
0
0: uint256: 100
stud_array
0
0: uint256: 100

Structure

```
//SPDX-License-Identifier: GPL-3.0



pragma solidity >=0.5.0 < 0.9.0;

struct Student{
    uint roll;
    string name;
}
contract Demo
{
    Student public s1;
    constructor(uint _roll,string memory _name)
    {
        s1.roll=_roll;
        s1.name=_name;
    }

    function change(uint _roll,string memory _name)
public
    {
        Student memory new_stud=Student({
            roll:_roll,
            name:_name
        });
          s1=new_stud;
    }

}
```

Output


At Address
Load contract from Address
Transactions recorded 25
Deployed Contracts
DEMO AT 0X406...2CFBC (MEMOI
Balance: 0 ETH
change
uint256 _roll, string _name
s1
0: uint256: roll 1
1: string: name Aishwarya


Deployed Contracts
DEMO AT 0X406...2CFBC (MEMOI
Balance: 0 ETH
change
2,Himanshu
s1
0: uint256: roll 2
1: string: name Himanshu
Low level interactions
CALLDATA