

**Program: -**

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

```
pragma solidity ^0.8.0;
```

```
contract banking{
```

```
    mapping(address=>uint) public userAccount;
```

```
    mapping(address=>bool) public userExists;
```

```
    function createAcc() public payable returns(string memory){
```

```
        require(userExists[msg.sender]==false,'Account Already  
Created');
```

```
        if(msg.value==0){
```

```
            userAccount[msg.sender]=0;
```

```
            userExists[msg.sender]=true;
```

```
            return 'account created';
```

```
        }
```

```
        require(userExists[msg.sender]==false,'account already created');
```

```
        userAccount[msg.sender] = msg.value;
```

```
        userExists[msg.sender] = true;
```

```
        return 'account created';
```

```
    }
```

```
    function deposit() public payable returns(string memory){
```

```
        require(userExists[msg.sender]==true, 'Account is not created');
```

```
        require(msg.value>0, 'Value for deposit is Zero');
```

```
        userAccount[msg.sender]=userAccount[msg.sender]+msg.value;
```

```
        return 'Deposited Succesfully';
```

```
    }
```

```
    function withdraw(uint amount) public returns(string memory){
```

```
        require(userAccount[msg.sender] >= amount, 'Insufficient balance  
in Bank account');
```

```
        require(userExists[msg.sender], 'Account is not created');
```

```
        require(amount > 0, 'Enter a non-zero value for withdrawal');
```

```
        address payable senderAddress = payable(msg.sender);
```

```
        senderAddress.transfer(amount);
```

```
        userAccount[msg.sender] -= amount;
```

```
        return 'Withdrawal Successful';
```

```
    }
```

```

function TransferAmount(address payable userAddress, uint
amount) public returns(string memory){
    require(userAccount[msg.sender]>amount, 'insufficeint balance
in Bank account');
    require(userExists[msg.sender]==true, 'Account is not created');
    require(userExists[userAddress]==true, 'to Transfer account does
not exists in bank accounts ');
    require(amount>0, 'Enter non-zero value for sending');
    userAccount[msg.sender]=userAccount[msg.sender]-amount;
    userAccount[userAddress]=userAccount[userAddress]+amount;
    return 'transfer succesfully';
}

```

```

function sendAmount(address payable toAddress , uint256 amount)
public payable returns(string memory){
    require(amount>0, 'Enter non-zero value for withdrawal');
    require(userExists[msg.sender]==true, 'Account is not created');
    require(userAccount[msg.sender]>amount, 'insufficeint balance
in Bank account');
    userAccount[msg.sender]=userAccount[msg.sender]-amount;
    toAddress.transfer(amount);
    return 'transfer success';
}

```

```

function userAccountBalance() public view returns(uint){
    return userAccount[msg.sender];
}

```

```

function accountExist() public view returns(bool){
    return userExists[msg.sender];
}

```

```

}

```

Output:

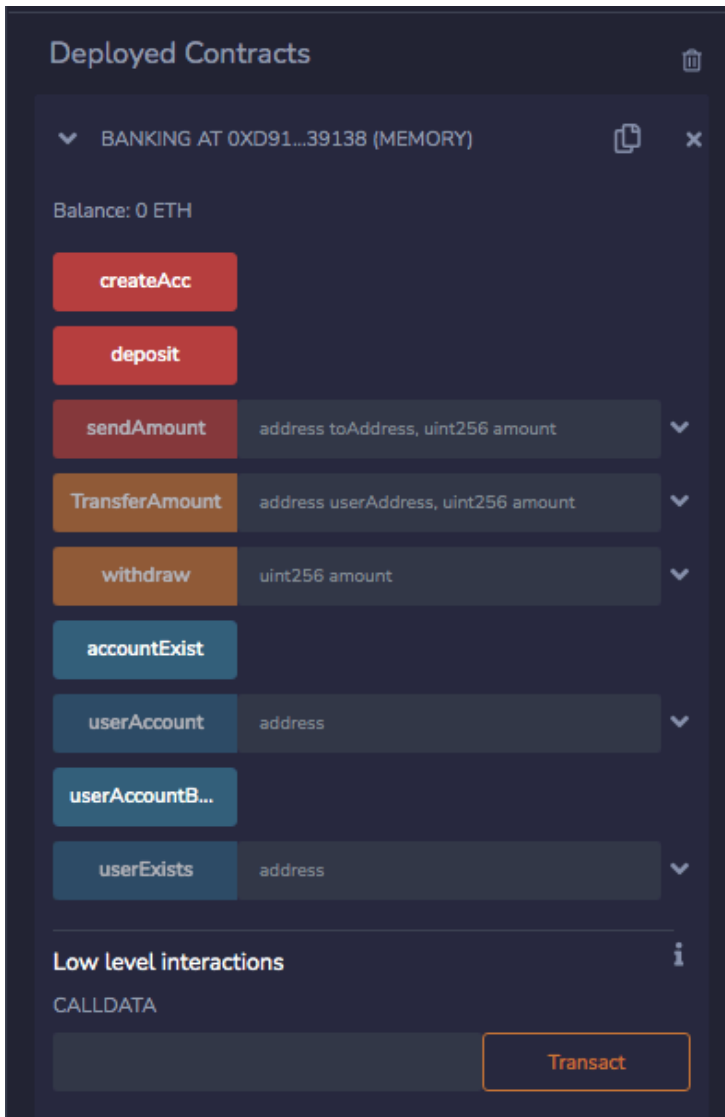


Fig: 1 Deployed instances

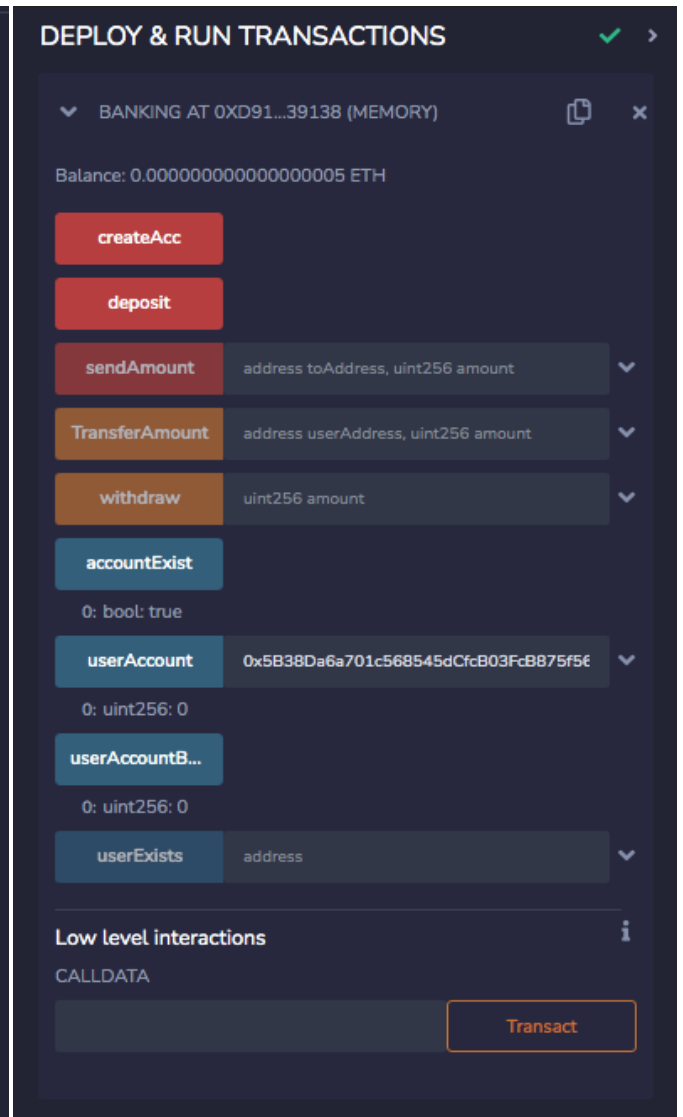


Fig:2 Balance of account 1 using userAccountBalance instance

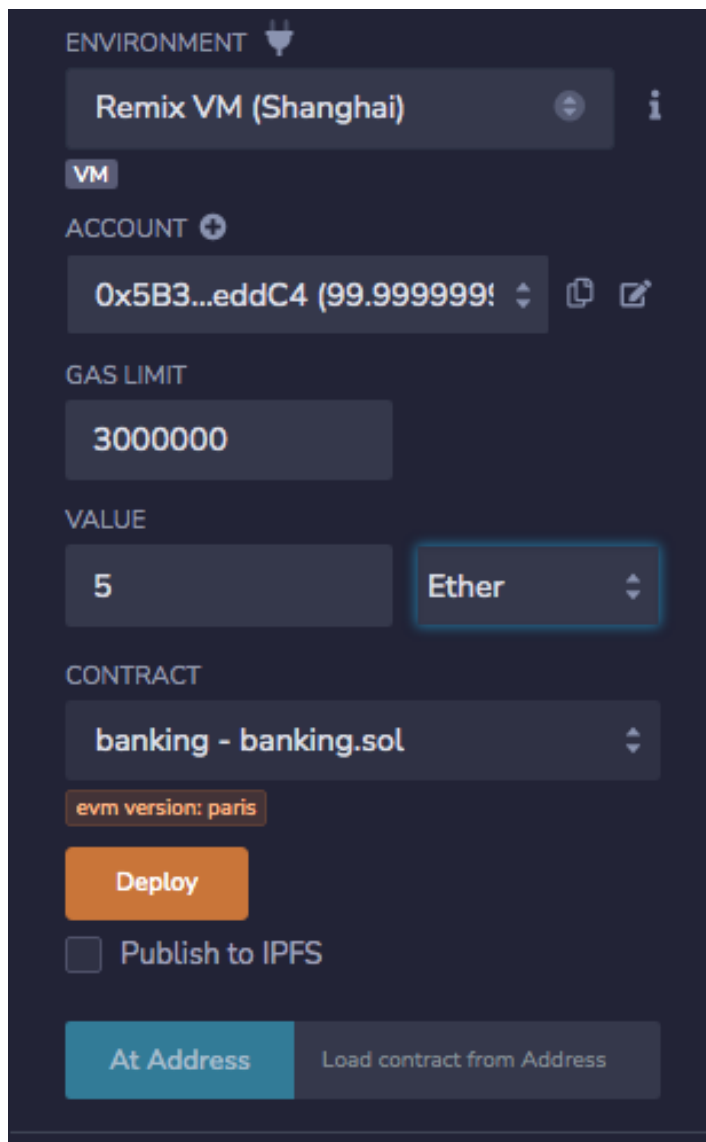


Fig:3 Deposit Money to Account 1

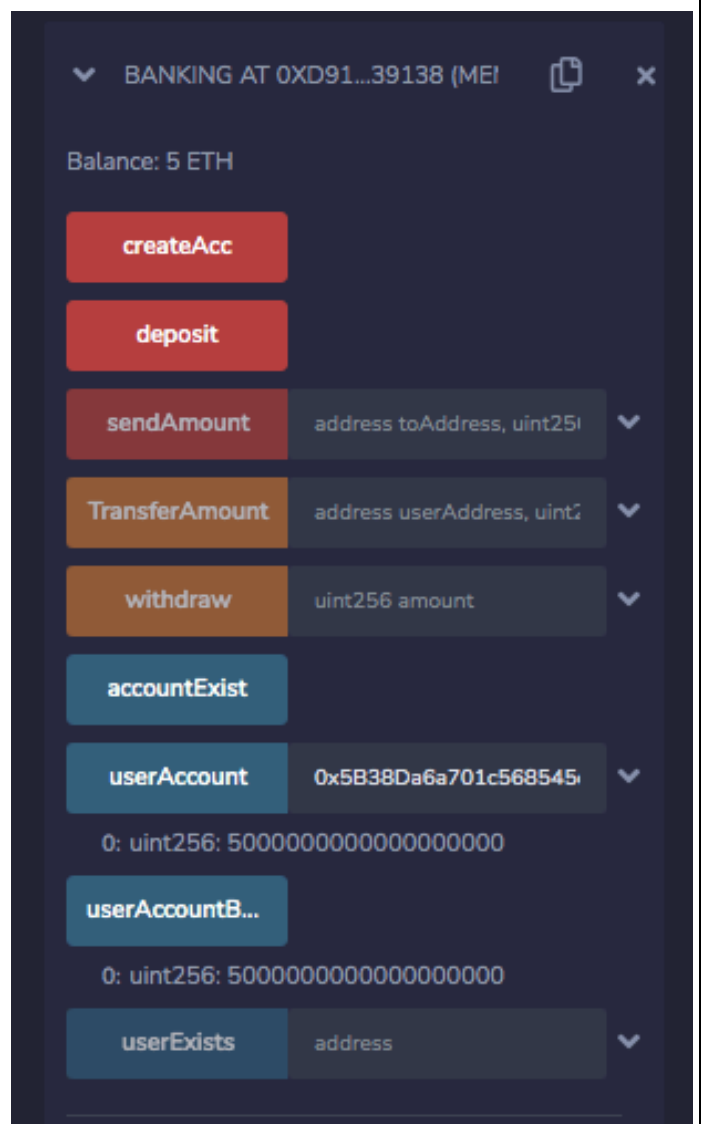


Fig:4 View Balance of Account 1

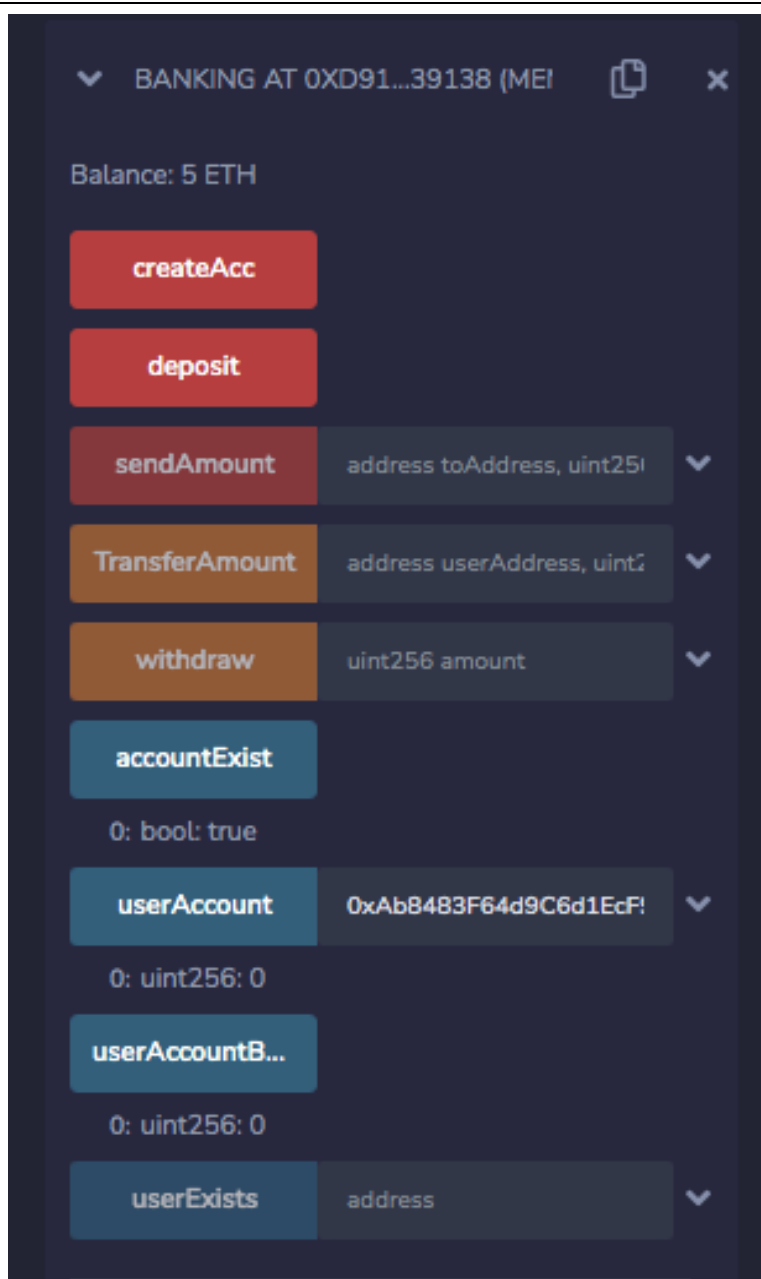


Fig:5 Create Account 2

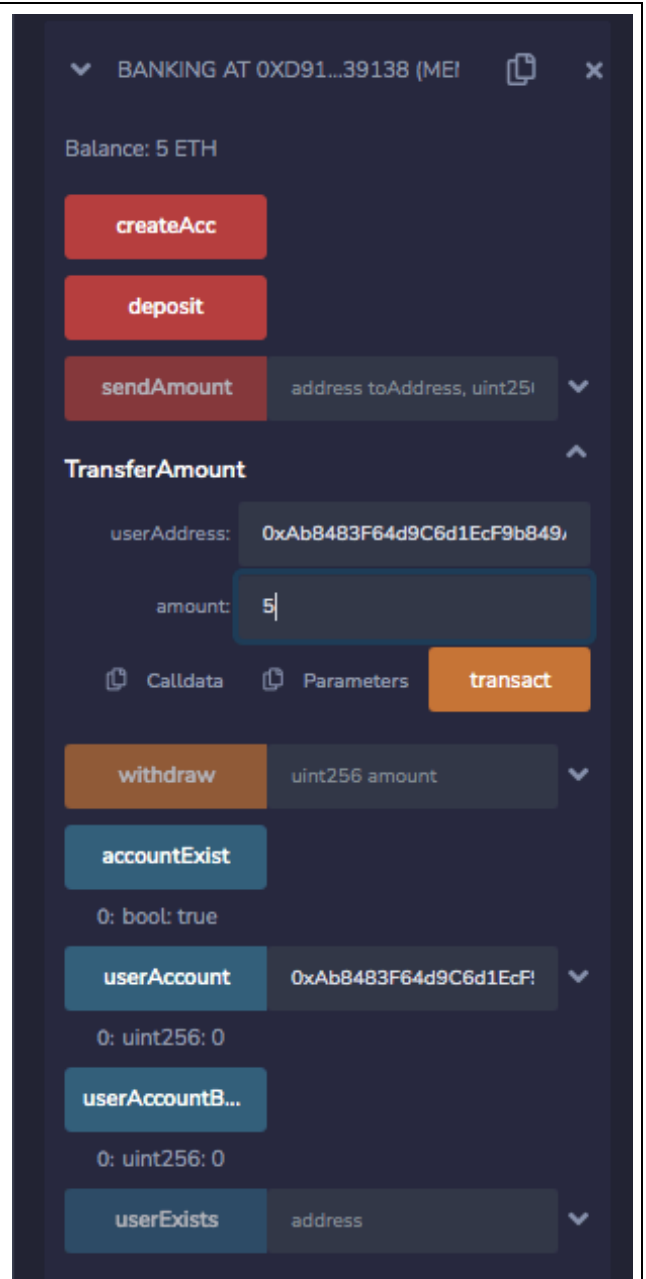


Fig:6 Transfer Money from Account 1 to Account 2

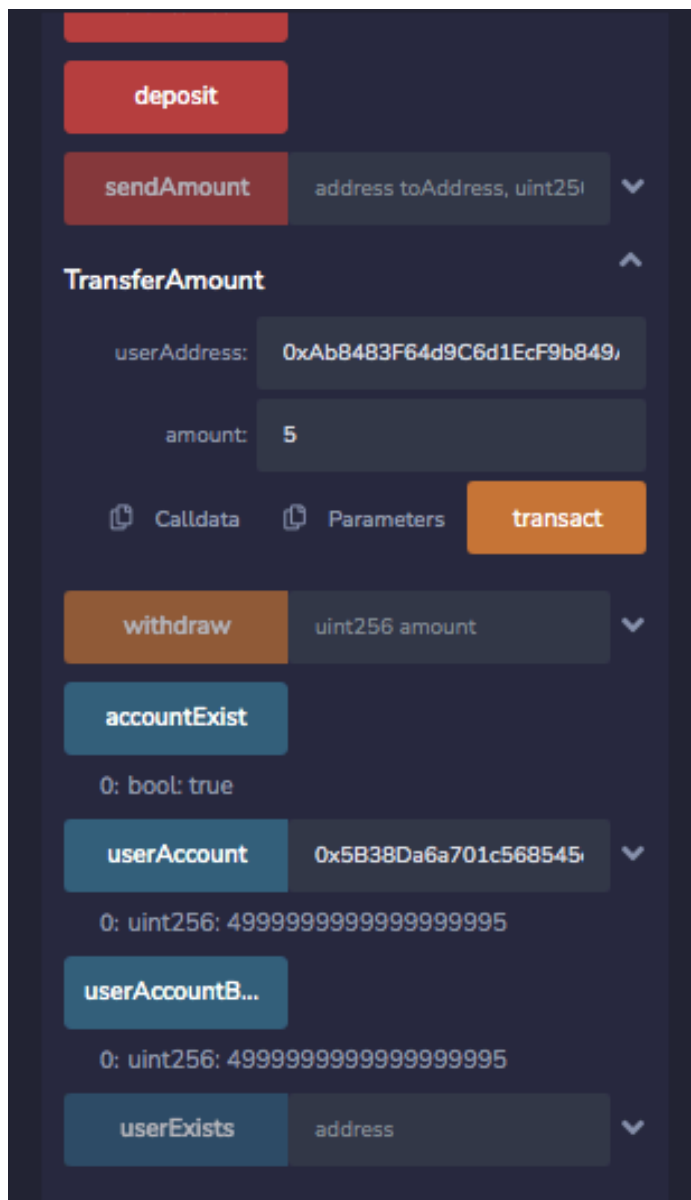


Fig:7 Balance after the transaction in Account 1

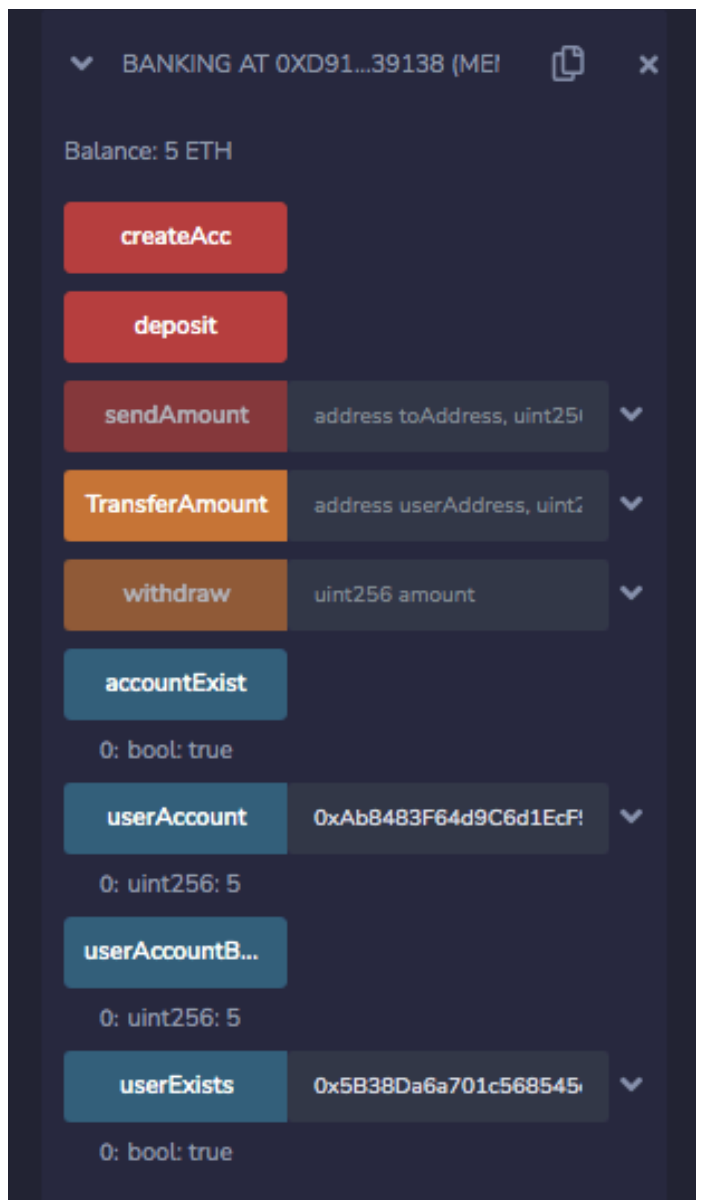


Fig:8 Balance after the transaction in Account 2

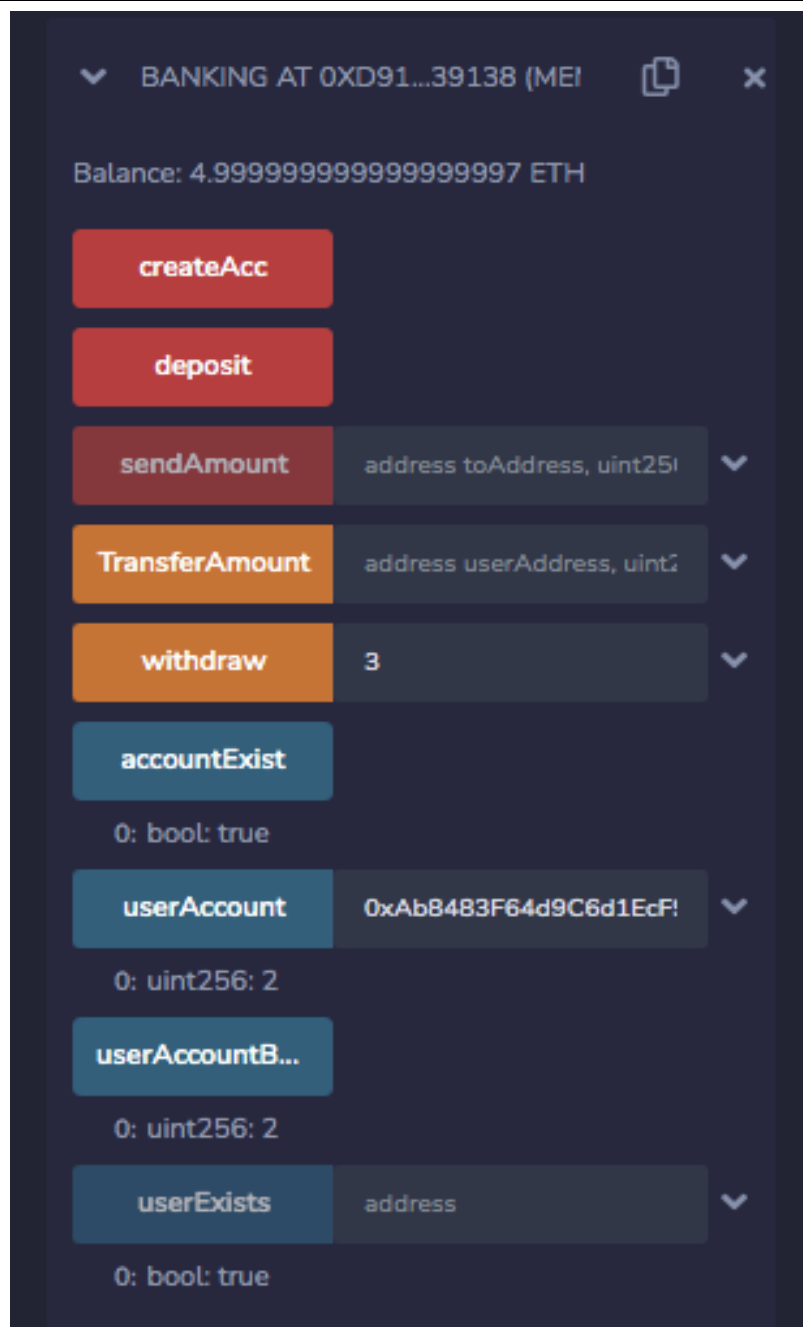


Fig:9 Withdraw Money from Account 2