

## Assignment no.4

Deploy a simple contract to the Ethereum blockchain.

The screenshot displays the Remix Ethereum IDE interface. The main editor shows a Solidity contract named `SimpleContract` with the following code:

```
1 // SPDX-License-Identifier: MIT
2 pragma solidity ^0.8.4;
3
4 contract SimpleContract{
5     uint value;
6     constructor(uint initial_value) {
7         value=initial_value;
8     }
9     function setValue(uint new_value) public {
10         value=new_value;
11     }
12 }
```

The left sidebar contains the **SOLIDITY COMPILER** panel, which is set to version `0.8.20+commit.a1b79de6`. It includes options for `Auto compile` and `Hide warnings`. Below these are buttons for `Compile 4prac.sol` and `Compile and Run script`. The **CONTRACT** section shows `SimpleContract (4prac.sol)` selected, with buttons for `Publish on Ipfs`, `Publish on Swarm`, and `Compilation Details`. At the bottom of the sidebar, there are links for `ABI` and `Bytecode`.

The bottom status bar shows the current file as `Assignment no 5(BT).pdf` and `Assignment No 2(...).pdf`. The system tray at the very bottom indicates the time as `00:34` on `17-05-2023`.

remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.20+commit.a1b79de6.js

ENVIRONMENT  
Remix VM (Shanghai)

ACCOUNT  
0x5B3...eddC4 (99.999999%)

GAS LIMIT  
3000000

VALUE  
0 Wei

CONTRACT (Compiled by Remix)  
SimpleContract - contracts/4prac.sol

Deploy 200

At Address

Transactions recorded 17

Save Run

Deployed Contracts

```
1 // SPDX-License-Identifier: MIT
2 pragma solidity ^0.8.4;
3
4 contract SimpleContract{
5     uint value;
6     constructor(uint initial_value) {
7         value=initial_value;
8     }
9     function setValue(uint new_value) public {
10         value=new_value;
11     }
12 }
```

listen on all transactions

Search with transaction hash or address

[vm] from: 0x5B3...eddC4 to: SimpleContract.(constructor) value: 0 wei data: 0x608...000c8 logs: 0 hash: 0x194...9c1e1

status true Transaction mined and execution succeed

transaction hash 0x1948df5fc7eaa2c61fc7ce7f3684652be9e057d7480289b38a7667f689c1e1

from 0x5B38Da6a701c568545dCfC803Fc875F56beddC4

to SimpleContract.(constructor)

gas 143795 gas

transaction cost 125067 gas

execution cost 65907 gas

input 0x608...000c8

decoded input { "uint256 initial\_value": "200" }

remix.ethereum.org/#lang=en&optimize=false&runs=200&evmVersion=null&version=soljson-v0.8.20+commit.a1b79de6.js

CONTRACT (Compiled by Remix)  
SimpleContract - contracts/4prac.sol

Deploy 200

At Address

Transactions recorded 18

Save Run

Deployed Contracts

SIMPLECONTRACT AT 0XCDB6...9E

Balance: 0 ETH

setValue 100

Low level interactions

CALLDATA

Transact

```
1 // SPDX-License-Identifier: MIT
2 pragma solidity ^0.8.4;
3
4 contract SimpleContract{
5     uint value;
6     constructor(uint initial_value) {
7         value=initial_value;
8     }
9     function setValue(uint new_value) public {
10         value=new_value;
11     }
12 }
```

listen on all transactions

Search with transaction hash or address

[vm] from: 0x5B3...eddC4 to: SimpleContract.setValue(uint256) 0xcD6...990F9 value: 0 wei data: 0x552...00064 logs: 0 hash: 0x25d...a5b64

status true Transaction mined and execution succeed

transaction hash 0x25d2c5f02f4617bec0af04cbf46c0811c16bc7c5e0f254ea1074857106ea5b64

from 0x5B38Da6a701c568545dCfC803Fc875F56beddC4

to SimpleContract.setValue(uint256) 0xcD6a42782d23007c13A74ddc5dD140e554990F9

gas 30586 gas

transaction cost 26596 gas

execution cost 5392 gas

input 0x552...00064

decoded input { "uint256 new\_value": "100" }