Homework 3 Nadine Chancay

Using Remix
Open Remix IDE : https://remix.ethereum.org
Use the simple storage contract
Compile the contract
Have a look at the abi and the bytecode, do you understand how the abi relates to your contract's code ?

Contract’s code:

```
// SPDX-License-Identifier: GPL-3.0
pragma solidity >=0.7.0 <0.9.0;

/**
 * @title Storage
 * @dev Store & retrieve value in a variable
 * @custom:dev-run-script ./scripts/deploy_with_ethers.ts
 */
contract Storage {

    uint256 number;

    /**
     * @dev Store value in variable
     * @param num value to store
     */
    function store(uint256 num) public {
        number = num;
    }

    /**
     * @dev Return value
     * @return value of 'number'
     */
    function retrieve() public view returns (uint256){
        return number;
    }
}
```

Contract’s ABI:

```
[
  {
    "inputs": [],
    "name": "retrieve",
    "outputs": [
      {
        "internalType": "uint256",
        "name": "",
        "type": "uint256"
      }
    ],
    "stateMutability": "view",
    "type": "function"
```

```
  },
  {
    "inputs": [
      {
        "internalType": "uint256",
        "name": "num",
        "type": "uint256"
      }
    ],
    "name": "store",
    "outputs": [],
    "stateMutability": "nonpayable",
    "type": "function"
  }
]
```

The ABI have to main curly brackets that represent de main functions of the contract: Retrieve and Store. Inside each fuction, there is detailed information about inputs, outputs, name, type and stateMutalitity, which are “view” (specified to not modify the blockchain state), and “nonpayable” (this is the default mutability and doesn’t need to be mentioned while writing a function in code, this means a function does not accept Ether; using this we can read and write blockchain state).

Bytecode:

608060405234801561001057600080fd5b506101508061002060003960000f3fe608060405234801561001057600080fd5b50600436106100365760003560e01c80632e64cec11461003b5780636057361d14610059575b600080fd5b610043610075565b60405161005091906100a1565b60405180910390f35b6100736004803603810190610006e91906100ed565b61007e565b005b600080549050905565b8060008190555050565b60008190509190505565b61009b81610088565b82525050565b60006020820190506100b60000836600083019184610092565b92915050565b600080fd5b6100ca81610088565b81146100d557600080fd5b50565b6000813590506100e7816100c1565b92915050565b600060208284031215610103576101026100bc565b5b6000610111848285016100d8565b91505092915050565fea26469706673582212201f1c1c743c44ec5c4f726c03c8c986819de06e87253530a2f74f329fc9a98079264736f6c63430008120033

Reference: https://www.quicknode.com/guides/ethereum-development/smart-contracts/what-is-an-abi/