



Master: Distributed Information Systems Engineering and Security
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Subject: Blockchain for finance and banks

Tp 03

General questions:

Choose the correct answer :

1- Which command is used to compile a Solidity smart contract named "Vote.sol" using foundry toolchain ?

- a) compile Vote.sol
- b) forge build
- c) solidity compile Vote.sol
- d) truffle compile

2- What is bytecode in the context of smart contracts?

- a) A high-level programming language used to write smart contracts.
- b) The machine-readable code that represents the logic of a smart contract.
- c) A network address that allows applications to interact with a blockchain node.
- d) The standardized interface for interacting with a blockchain network.

3- What is the purpose of an RPC endpoint?

- a) To establish a connection between two or more applications
- b) To provide a standardized interface for interacting with a blockchain network
- c) To facilitate the exchange of data between different blockchain protocols
- d) To enable remote procedure calls between distributed applications

4- Which keyword is used to define a function in Solidity?

- a) func
- b) def
- c) function
- d) fn

5- Which command is used to run all tests in verbose mode using the Foundry toolchain? (Consider the following traces from the testswap() function)

```
[PASS] testSwap() (gas: 252905)
Traces:
  [252905] LiquidityPoolTest::testSwap()
    [46789] myToken::mint(0x7E5F4552091A69125d5DfCb7b8C2659029395Bdf, 1000000000000000000 [1e21])
      emit Transfer(from: 0x0000000000000000000000000000000000000000, to: 0x7E5F4552091A69125d5DfCb7b8C2659029395Bdf, value: 1000000000000000000)
    0 [1e21]
      ← ()
```

- a) test Contract.sol
- b) forge build
- c) truffle compile
- d) forge test -vvv

6- In Solidity, what does the "msg.sender" represent?

- a) The number of the block that is currently being mined
- b) The contract address
- c) The account that called the function
- d) The amount of Ether that the transaction sender is willing to pay for each unit of gas used.

7- What is the standard way to interact with smart contracts in the Ethereum ecosystem, both from outside the blockchain and for contract-to-contract interaction?

- a) EVM: Ethereum Virtual Machine
- b) RPC: Remote Procedure Call
- c) ABI: Application Binary Interface
- d) JSON: JavaScript Object Notation
- e) Web3: JavaScript API

Exercise 01:

- Write a Solidity smart contract that allows users to deposit and withdraw tokens .
- perform some tests to ensure its functionality.(use foundry).