**Day 3 Assignment**

# **Question 1:**

# **Test mining code in python for 10 zeros and share the nonce and time taken**

Source code Link:

<https://github.com/Simi-Paxleal-J/Advanced-Blockchain-Assignments/blob/main/Day%203/Python_Blockchain_Implementation.ipynb>

A screenshot of a computer

Description automatically generated

In the screenshot while executing it is taking more than 1 hr and still running

It shows for small values the mining time is minimum but the larger hash the larger time to mining

# **Question 2:**

# **Difference between Proof of stake and Proof of Work**

|  |  |  |
| --- | --- | --- |
|  | **Proof of Stake** | **Proof of Work** |
| **Participating nodes** | Validators or Forgers | Miners |
| **Capacity** | Validating depends on stake of network | Mining capacity depends on computational power |
| **Result of mining** | No new coins are formed | Mining produces new coins |
| **Reward** | * No block rewards * Miners take transaction fees | * Miners receive block rewards * First miner (who solves each block problem) receives the block reward |
| **Define** | Creator of new block is chosen in deterministic way, depending on its wealth, defined as stake | A requirement to define an expensive computer calculation, called mining |
| **Attack** | More than half i.e., 51% of attack is virtually impossible | Prone to 51% attack |
| **Equipment** | Standard server grade unit is more than enough | Specialized equipment to optimize processing power |

# **Question 3:**

# **Read about types in Ethereum & share summary in community**

* Ethereum is public blockchain
* No one can control or own it
* Ethereum is a Cryptocurrency which got formulated in 2015
* The 2nd widely used Cryptocurrency after Bitcoins
* Different platforms for Smart Contracts:
  + Ethereum
  + RSK
  + EOS
  + TRON
  + Stellar
* 2014: Ethereum whitepaper released/crowdsale
* 2015: Ethereum “Frontier” launched
* Miners currently receive 5ETH plus all included gas fees (every 15 sec)
* There are 2 accounts
  + Externally owned account
  + Contract account

Creating a ether wallet

A screenshot of a computer

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