Blockchain Essentials day 1

Name: Kruti Rach

Question 1: What is your understanding of Blockchain?

Answer: According to the definition:

Blockchain is a constantly growing ledger that keeps a permanent record of all the transactions that have taken place in a secure, chronological and immutable way in a distributed and decentralized manner.

In other words, Blockchain is a kind of data structure that stores the transaction records. Blockchain uses a mix of **distributed database, decentralization** and **cryptography** technologies. The information stored in the blockchain is **verifiable**, **unchangeable**, **tamper** **proof** and **immutable**. It can be thought as a chain of blocks, each containing data about transactions, on distributed network and there is no centralized controller for this chain.

Question 2: What is the core problem Blockchain is trying to solve?

Answer: Blockchain is basically trying to solve the issue of needing a centralized third party for performing monetary transactions. It has also solved the issues of security and authenticity.It has removed the fear of changes in the transaction i.e. some third party cannot tamper the transactions made by an individual in the Blockchain.

Question 3: What are the few features Blockchain will give you?

Answer: The following features are provided by blockchain:

* Verifiable
* Authenticate
* Unchangeable
* Tamper-proof
* Immutable
* Transparent
* Decentralized and distributed network
* No hacking
* Major security boost

Question 4: What all things does a block contain?

Answer: A block in the blockchain contains the following things:

* Block number
* Transaction records
* Previous hash Key
* Mining key(Nonce)

Question 5: How is the verifiability of Blockchain has been attained?

Answer: Blockchain works on the principle of Hashing. It uses SHA for calculating the hash of the block. Hash code is generated with current data and the previous hash code of the block. A process called mining is used to add new blocks into the chain. Mining basically means solving complex mathematical problem s to calculate the hash for the block.

Also, blockchain works on a distributed and decentralized network of nodes. If new blocks are added to the chain by mining, they are automatically updated to all the nodes connected in the network. A slightest change in the previous blocks leads to a major change in the hash code generated for the block and the entire chain would get affected. Hence, due to Hash technology and distributed decentralized system the verifiability of the blocks in the blockchain is attained.