

Q4. What all things does a block contain??

- Magic No
- Block Size
- Block Header
- Transaction Counter
- Transactions

## **Magic Number**

Magic number is not confined to bitcoin, this is used in computer science mainly for files.

## **Block Size**

This is size of the block in bitcoin, as mentioned before average size is 1 MB.

## **Block Header**

This is very important part in Block structure and this has further 6 items. We will explain this later in this post.

## **Transaction Counter**

This depicts the number of transactions stored in that block.

## **Transactions**

This is all the transactions stored in that block.

# Block Header

Block header in Bitcoin has

- version
- previous block hash
- merkle root hash
- timestamp
- difficulty
- nonce

## previous block hash

Immutable is one of the main feature of Blockchain, that means once information added to Blockchain, it is impossible to change the information. Blockchain achieve this with "pointer to previous block hash"

section in the block. Here reference to previous block is there in current block and that is similar to link list concept.

## **Timestamp**

Timestamp is the epoch Unix time of the time of block initialization.

## **Nonce**

A nonce is an arbitrary number that can be used just once. It is similar in spirit to a nonce word, hence the name. It is often a random or pseudo-random number issued in an authentication protocol to ensure that

old communications cannot be reused in replay attacks. They can also be useful as initialization vectors and in cryptographic hash functions. Also known as a 'Crypto Nonce.

It is integer value that miner use when they perform mining to generate required hash.