Block-chain

Properties in a Block:
- **Timestamp:** The time the block is created determines the location of it on the blockchain.
- **Transaction Data:** The information to be securely stored in the block.
- **Hash:** A unique code produced by combining all the contents within the block itself — also known as a digital fingerprint.
- **Previous Hash:** Each block has a reference to the block prior to its hash. This is what makes the blockchain unique because this link will be broken if a block is tampered with.

a blockchain is similar to a permanent book of records — it keeps an accurate unchanging record of all data, or transactions, stored in chronological order. Each block has a reference to the block's previous hash. This is how blocks are "chained" together. If a block's contents are tampered with, the block's hash changes and the chain breaks, making it difficult to successfully tamper with any one piece of the chain.

Since all blocks in the blockchain have a reference to the previous block, the first block is a little different than the rest. It is known as the *Genesis Block*. The problem, however, is that the Genesis Block does not have a block before it. So it wouldn't make sense to have a previous hash stored inside it. To resolve this minor issue, the value of the previous hash is typically hard-coded into the Genesis Block with the default value of zero.

Key Terms:
- **Genesis Block:** The genesis block is the first block on the blockchain and it is typically hard-coded into the blockchain structure. Being the first block on the blockchain, it does not have a link to a previous hash.