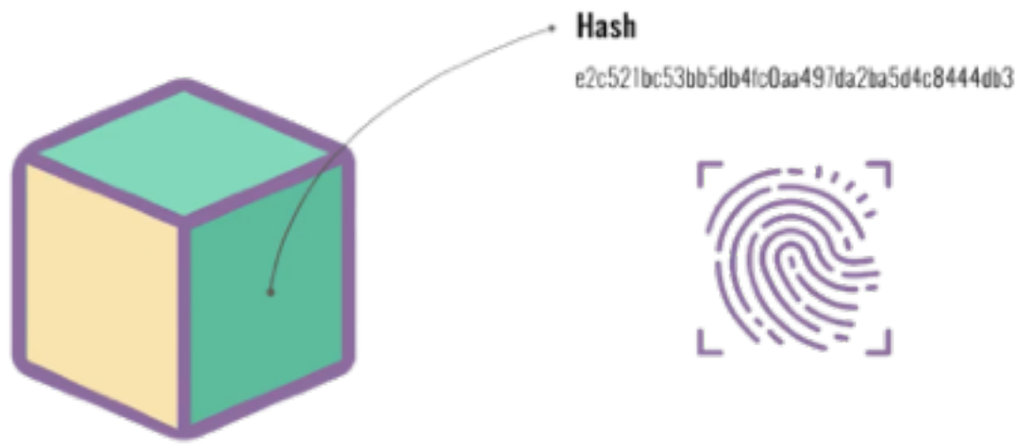
BLOCK IDENTIFIERS:

To identify a block, you have a cryptographic hash, a digital signature if you will. This is created by hashing the block header twice with the SHA256 algorithm. For example, this is a block. I will refer to this block as an example for this article.

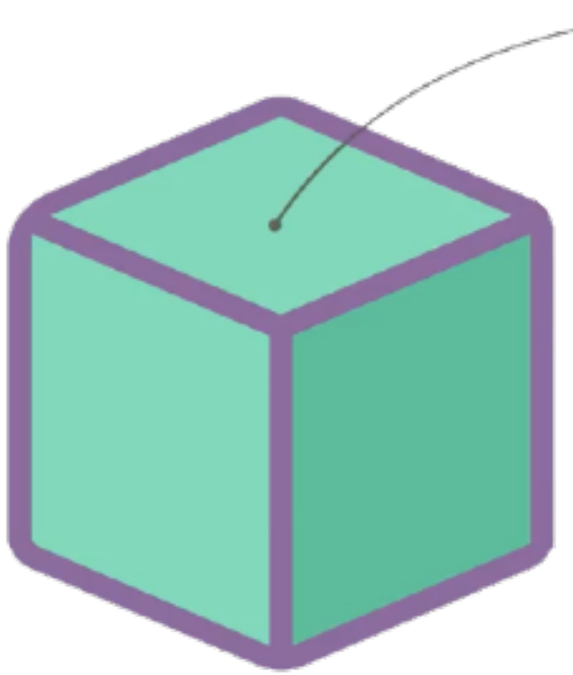
The block header hash for this particular block is (right column):
0000000000000000000301fcfeb141088a93b77dc0d52571a1185b425256ae2fb

We also can see the previous block's hash (left column):
0000000000000000004b1ef0105dc1275b3adfd067aed63a43324929bed64fd7



Remember that we used the second hash to create the first. Every block uses the previous block's hash to construct its own hash. The block hash is a unique identifier. You won't find two blocks with the same hash. The other way to identify a specific block is the block height. The is the position of the block in the blockchain. Our example's block is in the 500312 position. This means that there are 500311 blocks before this one. Since the creation of the Bitcoin blockchain in 2009, 500312 blocks have been created (at the time of writing obviously). A block height is not unique. Several blocks can compete for the same position in the case of a fork, like Bitcoin Cash for example.

BLOCK DATA STRUCTURE:



The Block Chain Data Structure

A Merkle Tree structure allows the transmission of blocks of data between individuals on a peer-to-peer network. This information needs to be transmitted in an unaltered or uncorrupted state. When data needs to be stored efficiently and securely, Merkle Trees play an important role.

A Merkle Tree is also called a hash tree and is meant for verifying data that is stored and transmitted between different computers linked to a network. This technology has become an important part of peer-to-peer networks in recent times, as well as in cryptocurrency.