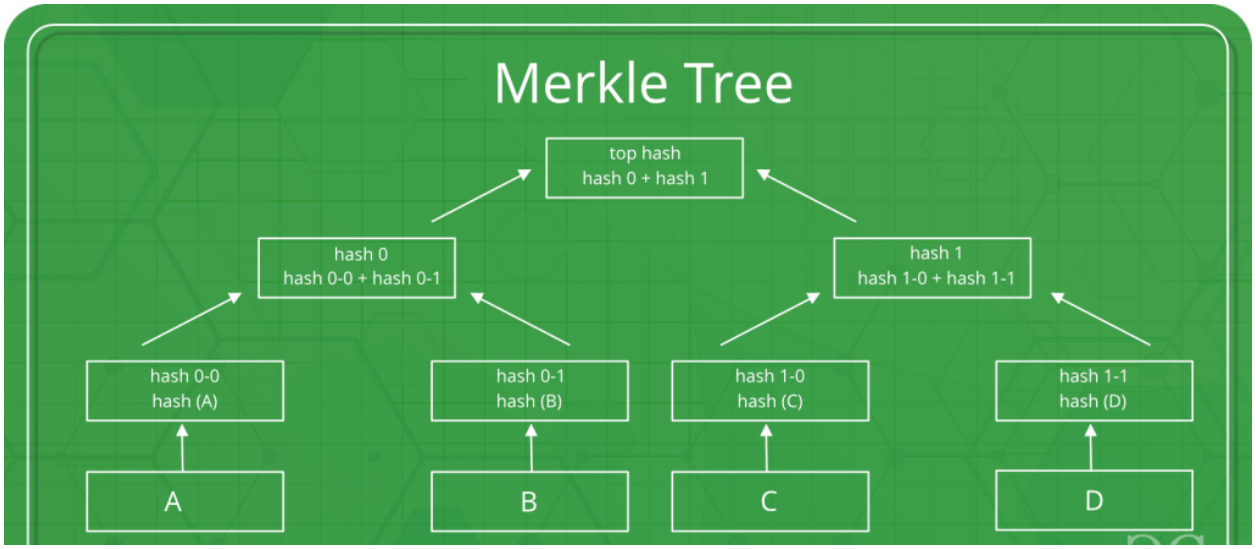
Input	Output
None	Merkle root

Process
1. Get transactions hashes as function parameter 2. Concatenate every two hashes and hash them using SHA-512 algorithm in ecc package. a. Import module: from ecc import sha512 b. Use algorithm: “sha512.Sha512(string.encode(utf-8’)).hexdigest()”, returns 64 byte hex string 3. Hash the concatenated hashes and repeat until only one hash is left, that hash is the Merkle Root

A diagram to help



A B C D = transaction hashes
Where the *top hash* is the Merkle Root.

MerkleTreeNode.MerkleTreeNode() class constructor IPO

Input	Output
None	None

Process
1. Initialize self.left, self.right to None 2. Initialize self.data to parameter data 3. Initialize self.hash to the hashes value of self.data

MerkleTree.get_root() IPO

Input	Output
None	Merkle root

Process
1. Convert transaction list to MerkleTreeNode object and add to a list named nodes 2. Loop through nodes by incrementing by 2 3. Concatenate node1 and node2 and convert this data into MerkleTreeNode object and append to a temporary list. 4. Assign the temporary list to nodes list 5. Loop through until loop finishes 6. Nodes[0] is the merkle root