IEEE LUMS Presents Stacks #Hack4Impact Prompt

Aim: Test understanding of blockchain concepts by coding a solution based on it.

Prompt: Build an implication of an online market using the language of your choice and use the concepts of blockchain that you have learnt so far. Try implementing at least one concept of Blockchain.
One example of an online market can be a place where users can buy and sell goods using a crypto-inspired currency (which can even be just an integer variable - nothing fancy).
Another example of a market can be where users can trade digital items (e.g NFTs) such as memes, exclusive collectibles, rare items, art, music, or anything of value, which can be barter traded without any intermediary token/currency (to keep it simple).

Possible blockchain implementations include:

- Using public and private key pairs for encryption of data and communication between peers.
- Using tokens for transactions in your marketplace.
- Allowing transfer of tokens between different clients (wallets/public keys).
- Mining transactions in blocks or sending confirmations to those involved in the blockchain once the block is mined successfully.
- Calculating nonce values by the miners to mine the block.
- Implying the concept of immutability to make sure previous data cannot be changed. The data on blockchain is always the *true* state.
- Implementing a distributed ledger (this can be done in whatever way suits you, from socket programming to using file handling).
- Applying Byzantine Fault Tolerance to make sure a consensus is reached among all the peers.

Expectations:

- You will not be judged based on the GUI or its appearance.
- You don't necessarily have to apply all or any of these concepts mentioned above.
- You can come up with your own unique implementation of these concepts.
- Similarly, these aren't the only ones you can apply. You can reach out to us if you have any questions. However, you have to clearly mention in your presentation/video how you used the blockchain and its properties in your implementation.