**Assignment -5**

**Difference between Proof of Work (PoW) and Proof of Stake (PoS) in blockchain :**

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| **[S.NO](http://s.no/" \t "_blank).** | **PROOF OF WORK (POW)** | **PROOF OF STAKE (POS)** |
| **1.** | **The probability of mining a block is determined by how much computational work is done by miner.** | **The probability of validating a new block is determined by how large of a stake a person holds (how many coins they possess).** |
| **2.** | **A reward is given to first miner to solve cryptographic puzzle of each block.** | **The validator donot receive a block reward instead they collect network fee as their reward.** |
| **3.** | **To add each block to chain, miners must compete to solve difficult puzzles using their computer process power** | **There is no competition as block creator is .chosen by an algorithm based on user stake.** |
| **4.** | **Hackers would need to have 51% of computation power to add malicious block.** | **Hackers would need to own 51% of all [cryptocurrency](https://www.geeksforgeeks.org/what-is-a-cryptocurrency/" \t "_blank) on network, which is practically impossible.** |
| **5.** | **Proof of work systems are less energy efficient and are less costly but more proven.** | **Proof of Stake systems are much more cost and energy efficient than POW systems but less proven.** |
| **6.** | **Specialized equipment to optimize processing power.** | **Standard server grade unit is more than enough.** |
| **7.** | **Initial investment to buy hardware.** | **Initial investment to buy stake and build reputation.** |
| **8.** | **Bitcoin is most well known crypto with a Proof-of-Work consensus building algorithm which uses most well known proof-of-work function is called SHA256.** | **Some of cryptocurrencies that use different variants of proof-of-stake consensus are: EOS (EOS), Tezos (XTZ), Cardano (ADA), Cosmos (ATOM), Lisk (LSK)** |