1- Create a proof-of-work from your name and surname, i.e., a string concatenation of name+surname. Use SHA-256 hash function with an integer nonce, and use a target value that starts with two zeros. Note that difficulty increases as the target value decreases.  Increase the number of zeros and record the number of tries it takes to reach each difficulty level. Stop when your computer takes more than 30 seconds to find the hash value. Report the number of zeros and the associated computation time in seconds in a table. Submit your code in R, Python or Java.

2- What is the maximum possible difficulty when using a 256 bit hash output in proof-of-work? How long does a computer need to find a nonce that satisfies the difficulty?

3- Can two people create the same bitcoin address independently? How probable is this?

-not graded question: use the word blockchain as your private key, and create a bitcoin address for it. Has this address been used before?