

CprE 308 Quiz 6

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You can write on the back of the sheet.

Student Name:

1. A UNIX file system has 1-KB blocks and 4 Byte disk addresses. What is the maximum file size if i-nodes contain 10 direct entries, and one single and double indirect entry each? Do NOT simplify answer. Leave it as an expression with powers of 2.

The number of blocks: $10 + 256 + 256^2$.

2. Lamport's one-time password scheme uses the passwords in reverse order. Would it be ok to use $f(s)$ the first time, $f(f(s))$ the second time, and so on? Why? Please explain the basic properties a hash function should have.

No, it would not be ok.

For the properties of hash function, please check the textbook or other references.

3. How many disk accesses does one need to open and read the first line in the file? Assume that the i-block for the directory is in the main memory but the other blocks are not.

2 disk access: 1 for the file i-node and 1 for the file.