File Systems: Questions

Rename this PDF with your name using the same pattern, add your answers then turn in as directed via Slack.

Short Answer / Multiple Choice:

1. Name some of the functions of a file system.

Handle multiple simultaneous requests
•Provide security (permission and ownership)
•Handle underlying storage peripheral differences
•Provide high performance
•Prevent/Reduce data corruption
•Keep track of file creation/modification dates
•Facilitate Archival & Recovery (backup/restore)
•Work with arbitrary amounts of files and sizes of data
and stores the drivers/files needed to the copy paste function I used here

2. Name something used to represent a file or directory at a different location than the original.

link, alias and a shortcut

3. When viewing a path, what indicates the delineation between files and directories?

/ linux and unix based systems(aka the best systems) and \ for ms trash

4. If you have a very large amount of data, several Terabytes, and want to store it as cheaply as possible, what current storage technology would make the best choice?

Hard Drives/
HDD

5. Using Terminal on your mac, how can you view the files and folders in a file system.
   A> you can't, you must use the GUI and Finder
   B> the 'DIR' command
   C> the 'ls' command
   D> the 'list' command

6. Which logical mechanism can be used to speed access to filesystem data:
   A> Aliases
   B> Metadata
   C> Caching
   D> Nested subdirectories

True or False:

7. Filesystems store metadata, like a file's creation date, in special files called '.' and '..' . false
8. Any given operating system can only use one type of filesystem at one time. false
9. All filesystems are based off of the original MS-DOS filesystem. false
10. Filesystem choice is defined by the CPU type of a computer system. false
11. Solid State Disks are slower, because there are no moving parts. false
12. A computer can't operate without a filesystem. true

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Logic Puzzles:

13. Imagine there are two note taking applications you need to use for two different classes. Both are rather poorly written and store the note info in a single file located at a fixed place — i.e. Application #1 stores notes in /Users/you/Documents/Notes/myNotes.txt, and Application #2 stores notes in /Users/you/Desktop/Noted/theseNotes.txt

How can you make it so that changes in one are reflected in the other?

creating a symbolic link between the files. removing the Application 2 file to create one

"ln -s /Users/you/Documents/Notes/myNotes.txt /Users/you/Desktop/Noted/theseNotes.txt" :should be the command

you can hard link the files so they would point to file on the hard drive instead of one mirroring the other. this would be done with "ln /Users/you/Documents/Notes/myNotes.txt /Users/you/Desktop/Noted/theseNotes.txt"

Could there be an issues with doing this?

with a soft link the file 1 would be the only version of the file removing it should remove file 2

as far as hard link it the file is somewhere else in the root file system, if you wanted that file deleted you would have to find it a remove it from root

14. **G**iven the following at the CLI, what would be the output of the pwd command? You can substitute 'demo' for your login id and make a directory called Stuff in your Documents Directory and try this out…

```
unix$ pwd
/Users/demo/Documents/Stuff
unix$ cd ../../../../../..
unix$ pwd
```

/

cd / has the same effect