

# Computer systems concepts essay



**ASSIGN  
BUSTER**

Access to files and the resources for those files. 2. What are the four (4) factors that determine the efficiency of the File Manager? - Creating, Deleting, modifying, and controlling access to files. 3. What Is the File Manager "in charge of"? - It keeps track of directories that contain file names, physical location in secondary storage, and information on each file. 4.

What are the four (4) tasks it must perform to carry out its responsibilities? - It must keep track of where each file is stored. - Use a policy that will determine where and how the files will be stored, making sure efficiently use available storage space and provide efficient access to the file. - Allocate each file when a user has been cleared for access to it, then record its use. - Delectate the file when the file is to be returned to storage, and communicate its availability to others who may be waiting for it. 5. What is the file system like? What "part" does the File Manager play?

The file managers policy determines where each file is stored and how the system, and its users will be able to access them simply by commands that are independent from device details. 6. What does the File Manager use to help It keep track of Its files? What three (3) basic pieces of Information Is stored there? ; Shared Files. -Distributed Access. -Public Directories. (250-251) 7. How does the file system allocate a file? -By activating the appropriate secondary storage device and loading It Into memory while updating Its records of who Is using what file. . How does the File Manager allocate a file? - By updating the file tables and rewriting the file (if revised) to the secondary storage device. Any processes waiting to access the file are then notified of its availability. 9. File Definitions a. What Is a field? - A group

of related related bytes that can be Identified by the user with a name, type, and size. B. What is a record? - Is a group of related fields. C. What is a file? - Is a group of related records that contains information to be used by specific application programs to generate reports.

This type of file contains data and is moieties called a flat file because It has no connections to other files: unlike - A database appears to the file manager to be a type of file, but databases are more complex because they're actually groups related file that are interconnected at various levels to give users flexibility of access to the data stored. - Groups of related files e. What are program files? - Program files contain instructions and data file contain data: but as far as storage is concerned, the file manager treats them exactly the same way. F. What are directories? Listings of filenames and their attributes. 0. The user can communicate with the File Manager, which responds to specific commands. What are some examples of these commands? - Copy, Delete, Rename, open, Create, and New. 11. Without a File Manager, what would every program need to include? - Exact physical location on the disk pack. 12. Normally, where do the active files reside on a computer system? - Secondary Storage Unites 13. Some devices store information of " removable storage units". What are some examples? CDC, DVD's, Floppy Disks, USB devices, etc. 14.

What is each storage unit called, regardless whether it's a removable nit or not? Volume 15. Each volume is given a name. The File Manager writes this name and other information where on the various types of units? Note that when this information is written to the unit, then the operating system can interact with it. Innermost part of CD, Beginning of Tape, first sector of

outermost track. 16. The Master File Directory (MFC) is stored where? Immediately after the volume descriptor. 17. Can subdirectory names be stored in the MFC? Yes, if they are supported by the file manager. 18. What is the rest of the volume used for? The rest of the volume is used for file storage. 19. The first operating systems supported how many directories per volume? Only 1. 20. File managers create an MFC for each volume that can contain entries for both files and subdirectories. When a user opens an account on a computer system, the File Manager creates a what for that user? Subdirectory. 21. What do today's File Managers encourage users to create? They are also called what? Own subdirectories also called folders. For every file request, what is the point of entry?

Volume descriptor Describe how the File Manager searches for a particular file requested by a user. The filename is sent to the File Manager. The File Manager searches the MFC for the user's directory, and it then searches the user's directory and any subdirectories for the requested file and its location. 24. Each file entry in every directory contains information describing the file; what is it called? What is some typical information that it contains? File descriptor. Filename, file type, file size, name can be much longer than it appears. What are the two (2) components common to many filenames?

Relative filename and extension 26. What is a "complete filename" (also called an absolute filename)? The long name that includes all path information. 27. What is a relative filename? - The name that differentiates it from other files in the same directory. 28. What is "path" information? - Path information are the directory listings and folders that a file is located. 29. Do all operating systems use the same rules concerning the length and

characters used in relative file names? - No, Some operating systems require an extension that's appended to the relative filename.

Some operating systems require a file extension appended to the relative filename. 30. Generally describe what a file extension looks like, and how is it used by the operating system? - A file extension is usually two or three characters long and is separated from the relative name by a period, and the SO uses it to identify the type of file or its contents. 31 . Folders on a system with a graphical user interface (GU'), such as Windows or Macintosh, are actually 32. Subdirectory 33. ? - Directories or Subdirectories? So, when a user creates a " folder", the system actually creates what? Describe the " current" or " working" directory. - A current/working directory is a subdirectory in the Home/Base directory 34. Whenever a file is accessed, the user types in what, and then what does the File Manager add? - The relative name. - File Manager adds the proper prefix. 35. When a user gives a command to modify the contents of a file, what are they actually doing? - Giving the command to access records within the file.. 36. - Records 37. All files are composed of what? Inside each file all records are presumed to have the same what? - The Same Format; They can be of Fixed or Variable length.

The length of the fields that make up each record can be fixed or variable. What does this mean? Fixed-Length records are the most common because they're the easiest to access directly. Variable-length records don't leave empty storage space and don't truncate any characters, thus eliminating the teeth disadvantages of fixed-length records. 39. Which is more common, fixed- length records or variable-length records? - Fixed-Length records are most common. 41. Fixed-length records are ideal for what? - Ideal for data

files. Variable-length records are most frequently used in files that what? - Sequential, direct, or indexed sequential 42.

What three (3) ways can files be organized on magnetic disks (hard drives)? - Indexed sequential record, Direct record, Sequential record Of these three ways, which is easiest to implement? Why? - Sequential record organization- Because records are stored and retrieved serially, one after the other. 44. A direct record organization uses what type of files, and are implemented only on direct access storage devices 45. Files that use direct record organization are also called what type of files? - Random access files Note: The indexed sequential record organization combines the best of sequential and direct access. 7. For most dynamic files (where records are instantly being added, deleted, or changed), which type of organization is used and why? 48. Note: The File Manager must work with files as a collection of records. And records in a file must have the same format, but they can vary in length. 49. Note: When we refer to file storage we are actually referring to record storage (since a file is made up of records). 50. What storage scheme was used in early operating systems to store records? - Continuous storage, stored one after the other. 51. What does Non-contiguous Storage allocation allows files to do? Use any storage space available on the disk 52. Describe how a file's records are stored when there is not enough empty space? - Any remaining records and all other additions to the file are stored in other sections of the disk. 53. Record access. 54. Note: Indexed Storage allocation allows direct Access Control a. The first operating systems could not share files among users. But today any kind of files can be shared - data files, program files, and system files. What was the major disadvantage of file sharing? - File

Integrity b. What are the five (5) possible actions that can be performed on a file? Read, Write, Execute, Delete, Combination of those 4 . Do all file management systems use the same methods to control file access? - No, d. Describe the information contained in an Access Control Matrix, that is I. What does each column of information represent? - it. What does each row of information represent? - iii. What does the information at the intersection off row and column represent? What does each letter mean? - e. Note: The Access Control List is a modification of the access control matrix. I. Describe the information contained in this list. - I'. Some systems shorten this list by doing what? - iii.

Describe the responsibilities of each category. Lb. Note: The File Manager assigns default types of access to all files at creation time. - f. A Capability List shows the access control information from a different perspective. How is the information in this list organized? - I. Of the three (3) access control schemes discussed here, which is the most common? - it. But which other list is gaining popularity and why? - iii. Note: Be sure to read the first two paragraphs at the top of page 275 of the textbook.