

COMP 3411: Operating Systems

Naum Hoffman

T00672488

Assignment 5

1. 7 basic file attributes associated with a file in operating systems are as follows:

- a. Name
- b. Identified
- c. Type
- d. location
- e. Size
- f. Protection
- g. Timestamps and user identification

2. The 8 basic file operations are as followed:

- a. Creating a file
- b. Opening a file
- c. Writing to a file
- d. Reading a file
- e. Repositioning within a file
- f. Deleting a file
- g. Truncating a file
- h. Renaming a file

3. File type is used in the operating system to conduct a number of tasks. For

instance, if the os is told that a file type is binary-type, it can produce a readable result, instead of garbage. The operating system uses the extension at the end (.cpp, .exe, .docx) to determine how it's supposed to be read.

4. In an application, file type is used in a similar manner. For example, Java compilers expect source files to have a .java extension. However, this isn't always required, so users could create a file without specifying a type.
5. Sequential Access is different from direct access because Sequential access processes information of a file in order, one block after another. It essentially searches for the information in iteration. Rather, the direct access uses logical records to immediately go to a block of data. For example, to go to block 13 of a file, sequential access will go as follows: block 1, block 2, block 3, , block 13. And direct access will immediately go to block 13. Direct access is used for big files (databases), and sequential access is used for smaller files, and programs like searching for a word in a file.
6. The direct access method is based on a disk model of a file, since disks allow random access to any file or block. The file is viewed as a numbered sequence of blocks or records, which allows it to read/write to any block. It also uses logical records so that this is done in no particular order, rapidly.
7. the basic operations required on a directory in file systems are as follows:
 - a. Create a file
 - b. Delete a file
 - c. List a directory
 - d. Rename a file
 - e. Traverse the file system

