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**CIS 3207**

**PROJECT 4**

**File System**

**Introduction:**

A **file system** is comprised of a sequence of bytes allocated as a storage container on a physical storage device.  The file system consists of two distinct parts: a collection of files, and a directory structure that organizes and provides information about all of the files in the system. The storage container is comprised of data within the files, and meta data that describes the files (the file system directory). Through the file system directory, a user has access to files, the file descriptions, the location of file content and the file content itself.

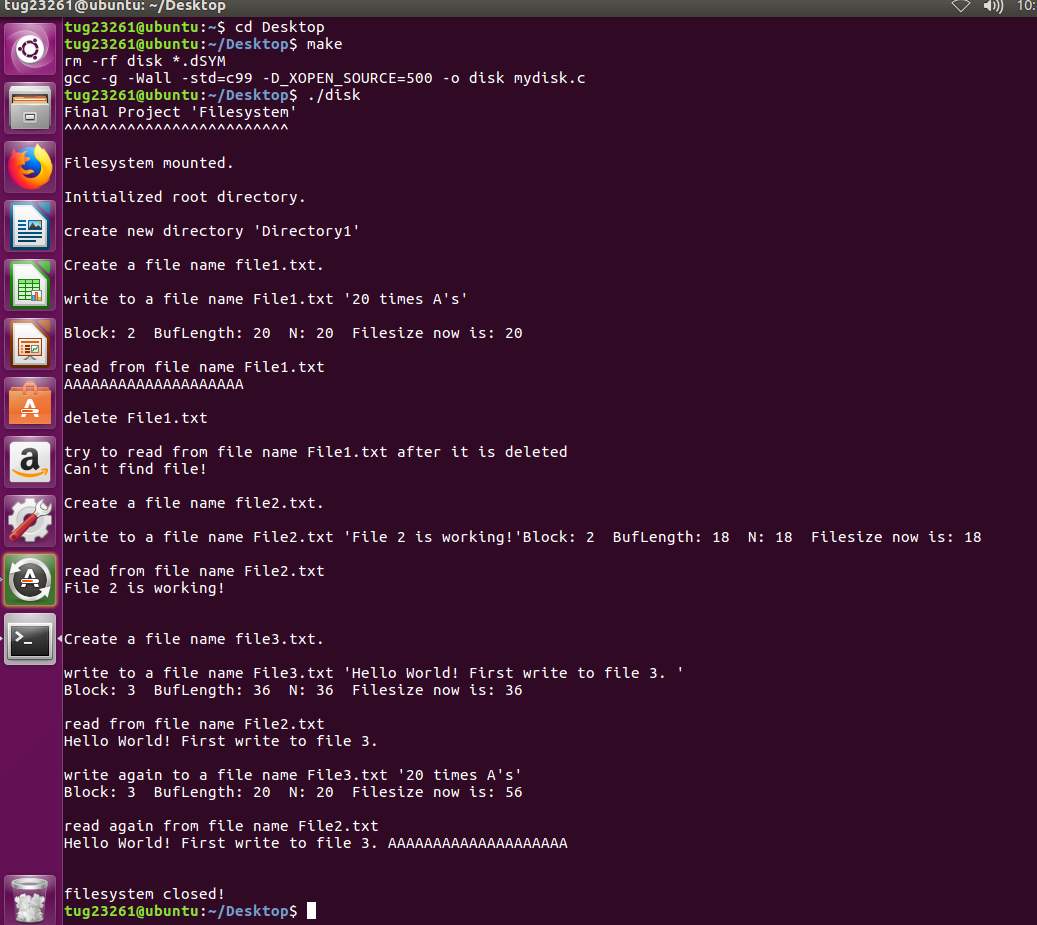
File System Design:

1. This file system is to have a directory structure that can store (sub)directories and files.
2. Files and directories can have names with as few as 8 characters along with a 3-character filename extension (file type descriptor). (this is a minimum requirement; you could have longer filenames)
3. Files can be up to 32768 characters (bytes) in size [again, a minimum requirement.]
4. Files should not be contiguous within the virtual file system ‘disk’.
5. The allocation units, or blocks, on the disk you are to create are each 512 bytes.
6. The basic file system functions are to include:
7. Create file
8. Open file
9. Delete file
10. Close file
11. Read file
12. Write file

**Running the program:**

This program is set to run in Linux environment with c99 standard. It has a make file which simplifies and saves time in inputting long commands in the command prompt. Just open the command prompt in linux and go to the folder where you placed the files using the ‘cd’ command. Then enter in ‘make’ and then **‘./.disk’.** This will start the program.

**Testing the Server:**

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