Lab04

Attached to this dropbox is a "Disk" library which can be used to read and write blocks in a binary file. Think of it like a disk driver! It's just a simple class, which holds a file handle to the backing file and exposes "readBlock()" and "writeBlock()" methods which can be used to read/write one block at a time. It also keeps track of how many block reads/writes have occurred, which you can print by calling a third "printStats()" method. A small example file is also included, showing how it works.

Implementations in C/C++ and Python 3 are provided. If you'd like to use another language, feel free, but you'll need to first implement this class yourself in that language. Shouldn't be too hard though, it's well documented in the code. :)

Also attached to the dropbox is a "dFAT" disk image (like we discussed in the lecture), containing several files and directories. It uses a block size of 512.

I'd like you to implement a "dbrowse" program of your own, like I showed in the live demo, which is capable of performing the actions below. It should utilize the provided "Disk" class to access the underlying file, so that statistics can be printed at the end. When run, it should print the disk label, and then let the user do any of the following...

- dir   List contents of current directory. Print type, size (for files), and name.
- cd <dir>   Change directory ("cd .." should go to the parent directory)
- read <file>   Read and print the contents of a file.
- pwd   Print the current working directory

As you work, test your program against the provided disk image. Ultimately you should be able to browse the directories in the image and read any files you find.

Deliverables:

Please turn in...

- Your code, as plaintext file(s).
- A screenshot of it running on the provided disk image, showing that each command works.