# Cairo University

**Faculty of Computers & Information**

**Advanced Operating System (2014-2015)**

## Assignment 5

**File System Simulator (Distributed File System)**

The Aim of this assignment is to build up a distributed File system allocation layer over multiple numbers of disks. You’ve already created a virtual file system allocation assignment on assignment 2; you should modify that assignment to accept N number of virtual disks names and their sizes and use these disks to allocate files and folders for your virtual file system.

After running the application the user should input the number of available virtual disks and their names and sizes. Your application shall manage these multiple virtual disks as a one virtual disk and build up a virtual file system using Indexed Allocation technique to satisfy a series of commands described in assignment-2, some of these commands are illustrated in the table below.

**New System Commands:**

|  |  |
| --- | --- |
| **Command** | **Summary** |
| CreateFolder root/folder1 | This command is used to create a  new folder named “folder1” under  the path “root”  Pre-requests:  1. Path already exists  2. No folder with the same  name is already created  under this path. |
| DeleteFile root/folder1/file.txt | This command used to delete a file  named “file.txt” form the path  "root/folder1". Any blocks allocated  by this file should be de-allocated.  Pre-requests:  1. The file already exists under   1. the path specified |
| DeleteFolder root/folder1 | This command used to delete a  folder named “folder1” form the  path "root". All files and  subdirectories of this folder will  also be deleted.  Pre-requests:  1. The folder is already exist  under the path specified |
| DisplayDiskStatus | This command used to display the  status of your Driver the status  should contain the following  information:  1. Empty space  2. Allocated space  3. Empty Blocks in the Disk  4. Allocated Blocks in the Disk |
| DisplayDiskStructure | This command will display the files  and folders in your system file in a  tree structure |

Please refer back to Assignment-2 for details about implementation hints

**Submission**

This assignment will be submitted **in groups of three** .