

**Practical 2: Formatting and File Systems on Floppy disks. 4 February 2005**

**Objectives:** Further exploration of MS-DOS/Windows file systems.

Report due: Wednesday 2005-02-09 at 9.30am.

**When you complete the practical, don't forget to get signed off (worth 50% of marks).**

1. Obtain a floppy disk; insert in A: drive.
2. Open a command prompt screen; Start / Run, "cmd".  
You should see the usual white on black console window with the cmd prompt:  
X:>
3. Format the floppy disk – this creates one new partition on it. Note: I know that (a) most floppy disks come formatted; (b) formatting is easy via Windows GUI. However, from the point of view of our lectures on Disks and File Systems, it is useful to get you to think about formatting.  
X:>format a:  
Follow the instructions; when prompted, give it a label pr2xyz, where xyz are your initials. Note what is output at the end of the formatting, you will require it for your report (R1).
4. Connect to A:  
X:>a: Note: it is just X:>a:, not X:> cd a:. That is, drives (a.k.a. partitions), such as X: and A:, are treated differently from directories/folders.
5. Get a directory listing, A:\>dir. Record what is output, you will require it for your report (R2).
6. You are now going to create a directory structure that is similar to the one you created last week. However, now we will have no directory pract1, what you do will be in the root directory of A:.

I would like you to create directories and files as follows:

```

                A:
                |
                +-----+-----+-----+-----+
                |               |               |
+----+-----+               +----+-----+               +--- file1.txt
| accounts |               | progs   |               |
+----+-----+               +----+-----+               |
                |               |               |
                +--- bank.dat           +--- ex1.vb
                |               |               |
                +--- credcard.dat        +--- ex2.vb
                |               |               |
                |               +--- ex3.vb
                |
                +-----+-----+-----+-----+

```

7. First, create file1.txt; if you like, you can simply copy it from X:\pract1\file1.txt:  
A:\>copy X:\pract1\file1.txt .  
Get a directory listing, A:\>dir. Record what is output, you will require it for your report (R3). How much space does file1.txt take up? What size is it? The answers to these may be different, and you must explain this in the report. If in any doubt, read about *sectors* and *allocation units* in chapter 10.
8. Now create directory accounts.  
A:\>mkdir accounts  
Get another directory listing, A:\>dir. Record what is output, you will require it for your report (R4). How much space does accounts take up? That is, what is the difference between the amount of space left in the disk at this point, compared to the previous listing (R3)? Explain.
9. I'll leave it up to you to work out how to create the remainder of the directories and files. If necessary, see last week's practical.

## Report

Follow the general instructions handed out at the first practical. There are 20 marks for general neatness and readability of the report. Don't forget page numbers.

1. Report what was output at R1. Write an explanation of what it means

[20 marks]

2. (a) Report what was output at R2 (empty disk) and (b) at R3 (just after `file1.txt` was created). (c) How much space does `file1.txt` take up? (d) What size is it? (e) The answers to these may be different, and you must explain this in the report.

[20 marks]

3. Just after you created directory `accounts` and got a directory listing (R4); (a) what is output; (b) how much space does `accounts` take up? (c) Explain.

[10 marks]

4. Include a brief explanation of what happens to a floppy disk when you format it. In your explanation, mention the distinction between *low level format* and *high level format*. I have already discussed this in class, but get me to go over it again if necessary.

[30 marks]

Overall impression (neatness, readability etc.)

[20 marks]