

Assignment 6: “Software, Part I”

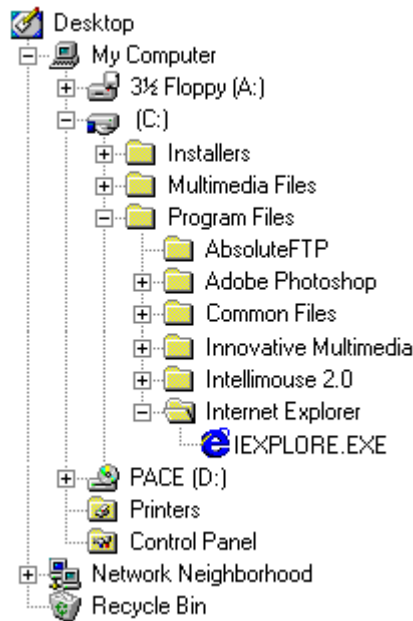
due in section during the week of 16 March 1999

Please write or type your answers on one or more separate pieces of paper.

Short answers. (8 points each.)

Please answer each of the three questions below in one or more words or sentences.

1. Consider the hierarchy of drives, files, and folders on my Windows PC, pictured below.



What is the path of Internet Explorer (IEXPLORE.EXE)?

2. Suppose that you own a computer with a 200 MHz CPU, 48 MB of RAM, and a 1.0 GB HD. You're constantly using the computer to type up homework for your favorite Extension School course, and so you're frequently saving files to your hard disk. But, you're pretty tight on hard-disk space, so you tend to delete files a lot, particularly homework-related files as soon as you've printed them out. Over time, you notice that it's taking progressively longer to save and open files. But your CPU is still running at 200 MHz. You still have 48 MB of RAM. Your hard drive can still hold 1.0 GB. So why in the world is your system slowing down? Explain the reasons behind this predicament in one or more sentences. Then, in one or more additional sentences, tell us how you could solve the problem, short of buying a better computer.

questions continue on opposite side...

3. Suppose that you've just finished typing up your answers to "Assignment 6: Software, Part I" on your Mac with Microsoft Word, your favorite word-processing program. It's late in the evening, and so you save your answers to a file on your hard disk and retire for the night. As soon as you're asleep, though, your mischievous nephew sneaks out of his room and decides to play around on your computer. (Suppose that you have a nephew.)

You awaken the next morning to find that, during the course of his antics, your nephew dragged your homework file to the trash can *and emptied* the trash! Devastated, you break into tears, only to be reassured by your nephew that the file might be recoverable. "But I can't find the file anywhere!" you exclaim. "You deleted it!"

"But there exist programs that can undelete files," your nephew explains. "Like Norton Utilities."

Explain in one or more sentences how programs like Norton Utilities can actually undelete files.

The Y2K "crisis." (12 points each.)

The following questions are designed to familiarize you with the nature and magnitude of the Y2K problem. Many of you evinced an appreciation of Y2K issues on Assignment 1: "The Internet, Part I." The attached articles, however, should sharpen your understanding of the Y2K problem. In addition, these articles should open your eyes to the financial, political, and social implications of this "bug." Perhaps most importantly, these articles will provide you with the answers to the questions below. Please answer each in one or more sentences.

4. Obviously, the Y2K problem involves computers' mistaking the year 2000 for the year 1900. But why might computers also mistake Saturdays for Mondays? Why does it matter if a computer thinks that it's a different weekday than it really is?
5. BIOSes and RTCs are often implicated as culprits behind the Y2K problem. You're already familiar with some of the roles served by a computer's BIOS. But what's an RTC and how does it relate to the Y2K problem?
6. Many big businesses are (or have been) inspecting their mainframes to determine how those computers handle dates, lest their systems mistake the year 2000 for 1900. But why is it so difficult for large corporations to figure out how their computers handle dates?
7. Lloyds of London estimates that some \$1 trillion will be spent worldwide to redress Y2K problems. According to International Data Corporation, about how much of that \$1 trillion will go toward information-technology (IT) spending (*i.e.*, spending not inclusive of legal fees and the replacement costs of embedded systems)?
8. Companies and governments are obviously spending a fortune in order to ward off Y2K disasters. But who stands to gain from this "crisis"?
9. Based on your readings, what do *you* think will happen in 2000 as a result of unresolved Y2K "bugs"?

questions continue on next page...

Survey. (1 point each.)

Please answer each of the questions below in one or more words.

10. About how long did it take you to complete the nine questions above?
11. Did you find the attached articles interesting?
12. This assignment and its predecessor have both included excerpts from mainstream computer publications. Do you feel that such exposure is valuable?
13. Do you read any computer-related publications regularly? If so, which?

Extra credit. (5 points.)

14. Consider the following path of a file called jit3240.dll on a PC running Windows 95.

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C:\Program Files\Netscape Communicator\Program\java\bin\jit3240.dll
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Notice that this path includes rather long file and folder names. Older versions of DOS do not understand file and folder names that are longer than 8 characters, although files may additionally have 3-character file extensions. That is, older versions of DOS only support the 8.3 naming scheme.

Were I to boot up this PC with a floppy disk running a version of DOS that only supports 8.3, what would the path of jit3240.dll be? That is, what does the above path look like in such a version of DOS?