Slide 1

Administrivia

- Homework 6 sample solution posted.
- Reminder: Homework 9 due December 11 (next Friday).
- Not-accepted-past deadline for all homeworks, video-quiz responses December 17 (end of finals).
- I'm grading Homework 7; as I grade assignments I'll send out updated grade summaries.

Slide 2

More Administrivia

- ACM tutoring continues through last day of class, then ends.
- I'm planning to do (Zoom) office hours through the end of finals. Times TBA. (I'm thinking most days 6pm or so for about an hour.) I'll ask about preferences in the minute essay and let you know my plans by e-mail.
- Also keep in mind that while even Zoom meetings can be problematical for me, I'm generally very willing to try to help by e-mail! Do keep in mind that if you have a question about code, it helps a great deal to send me what you have!
- (I really apologize for my poor record both on class and office hours. Chronic health problems exacerbated by stress . . .)

Slide 3

More Administrivia

- *If you turn in work late,* and you feel that your situation is such that you couldn't reasonably turn it in on time, please explain when you turn it in, and I will take that into consideation.
- *If you can't meet the final deadline of December 17 but think you you could turn in work by that Saturday,* please let me know. I don't want to just extend that deadline for everyone since I do have a deadline for turning in grades, but I can make a few exceptions.
- Questions?

Slide 4

Homework 9

- Homework 9 asks you to complete an implementation of binary search trees, as discussed (in part!) in this week's video lectures. Not easy, *but* I think very doable. My intent is that you can use my sorted-linked-list code as something of a model, since a lot about the interface is similar (for example, the "print" function).
- Part of the goal of the assignment is to give you more practice working with pointers, which I think is a key take-away for those continuing into Data Abstraction. Something to consider if it seems tempting to just skip the assignment?

Slide 5

Just For Fun — "Extreme" ASCII Art?

- Some of you may have heard of "ASCII art"? a truly over-the-top example, from quite a while ago, can still be found, via

  `telnet towel.blinkenlights.nl`

  (to interrupt control-`]` then "quit" or control-d — although this doesn't seem to work in a terminal window??)

  (The above *may* work in other UNIX-terminal-like environments. Try it, and then maybe do a Web search on the command or the site?)
- (What some people choose to do with their time can be — interesting?)

Slide 6

Quotes of the Day/Week/?

- From a key figure in the early days of computing:

  "As soon as we started programming, we found to our surprise that it wasn't as easy to get programs right as we had thought. Debugging had to be discovered. I can remember the exact instant when I realized that a large part of my life from then on was going to be spent finding mistakes in my own programs." (Maurice Wilkes: 1948)
- From someone in a discussion group for the Java programming language:

  "Compilers aren't friendly to anybody. They are heartless nitpickers that enjoy telling you about all your mistakes. The best one can do is to satisfy their pedantry to keep them quiet :)"

Slide 7

Course Topics — Recap

- Basic C programming, for people who already know how to write programs in some other language. Especially useful (I think!) for those who start in a very abstract/high-level language.
- Review of the Linux/UNIX command-line environment and command-line development tools.
- Review of basics of computer arithmetic and data representation. A little more about floating-point representation.

Slide 8

Why Learn C? (For Java/Python/Scala Programmers — Recap)

- Scala and Python (and Java, less so) provide a programming environment that's nice in many ways — lots of safety checks, nice features, extensive standard library. But they hide a lot about how hardware actually works.
- C, in contrast, has been called "high-level assembly language" — so it seems primitive in some ways compared to many other languages. What you get (we think!) in return for the annoyances is more understanding of hardware — and if you do low-level work (e.g., operating systems, embedded systems), it may well be in C. (Performance *may* also be better, though "measure and be sure".)

Slide 9

Minute Essay

- Does early evening (starting 6pm) work for you for office hours? Any particular days? Some other time?
- Best of luck finishing the semester, and best wishes for a pleasant (and safe!) winter break!
- Course evaluations:

  URL sent to you in e-mail.

  Password TBA in class (to also be sent by e-mail after class).