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Administrivia

- Reminder: Homework 9 due today.
- Homework 10 official due date Monday, but accepted without penalty through next Friday.
- ACM tutors will be available through last day of class, but not after that.
- These next two classes will be a quick overview of some things you might want to learn more about later. I've listed readings in the textbook, but they're optional.

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Lists and Other "Collection" Types

- We know about arrays as one way to represent a collection of data.
- We could abstract from this a bit and talk about "lists" (what the textbook calls "linear lists") as linear ordered collections of data.
- We could also consider coming up with ways of representing non-linear collections such as trees, graphs (in the mathematical sense of a collection of nodes and edges), etc.
- Many/most programming languages support this idea, sometimes through fairly extensive libraries. C, not surprisingly, doesn't, but you can build your own, typically using `structs` and `pointers`.

Linear Lists

- One way to implement a linear list is with an array. Simple and efficient if list can be of fixed size and you don't need to add/insert elements in the middle.
- If that doesn't work well, an alternative is a "linked list" consisting of a collection of "nodes", each consisting of a list element plus a pointer to the next element.

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Linked Lists in C

- Defining a `struct` for the nodes of a linked list is somewhat tricky in C because one of the fields needed is a pointer to something of the same type. But the following works to define items in a linked list of `ints`:

```
typedef struct int_list_node {  
    int data;  
    struct int_list_node * next;  
} int_list_node_t;
```

- (Look briefly at example code for sorted list.)

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Minute Essay

- None — quiz.

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