

University of Illinois at Urbana-Champaign  
Dept. of Electrical and Computer Engineering

## ECE 220: Computer Systems & Programming

### Structured Data in C

## Sometimes, Knowing Which Thing is Enough

In MP6,

- we **represented** the current piece type
- **with** a small integer
- (**a bit pattern**).

**Sometimes,**

- **such a representation suffices:**
- in MP6, we just needed to know which piece.

ECE120 treated all representations that way.

## Often Want to Group Data Together Conceptually

More frequently, **we want**

- **to record several pieces of information** about a given thing,
- and **to group these data together** conceptually.

Examples:

- LC-3 instructions encode several fields.
- MP2 and MP3 used “events” (a name, a set of days, and a time or set of times).

## How Does One Describe a Book?

Imagine that you want to

- track your personal library
- as an app on your phone.

**What do you want to know about a book?**

author	length (in pages)
title	price
ISBN	edition