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

ECE 220: Computer Systems & Programming

Defining New Types

Use `typedef` to Define New Types

It gets a bit tiresome to keep writing **struct** everywhere.

Instead, we can create new types by writing

`typedef <base type> <list of types>;`

The **typedef** statement **looks just like a variable declaration**,
- except that it **starts with typedef**, and
- **new types are defined** (instead of variables).

Typical Uses of `typedef`

The most common forms are…

`typedef struct player_t Player;`

or

`typedef struct player_t player_t;`

Note that

1. the **same name can be used** (without **struct**), and
2. the **structure definition need not appear before** these definitions.

Information Hiding: Split Type and Structure Definitions

Only functions that
- implement operations on a data structure
- need the structure definition.

To **hide the implementation, a header file can include**

`typedef struct player_t player_t;`
- to **allow other code to use player_t***,
- while the **structure definition and all operations are in a single file**.