
More C

CSE 413, Autumn 2007

1

Topics

- scope and lifetime review
- Arrays vs. Pointers
- Command line parameters
- hw 4
- structs

2

What happens when we call h?

```
int* f(int x) {
    int *p;
    if(x) {
        int y = 3;
        p = &y;
    }
    y = 4;
    *p = 7;
    return p;
}
void g(int *p){
    *p = 123;
}
void h() {
    g(f(7));
}
```

3

arrays vs. pointers

```
void f1(int* p) { *p = 5; }
void f2() {
    int x[3];
    x[0] = 5;
    *x = 5;
    *(x+0) = 5;
    f1(x);
    f1(&x[0]);
}
```

4

Structs

- A struct is a record. (similar to a Java object with no methods.)
 - » x.f is for field access.
 - » (*x).f in C is like x.f in Java.
 - » x->f is an abbreviation for (*x).f.
- There is a huge difference between passing a struct and passing a pointer to a struct.
- (see struct example code)

5