

CS113: Lecture 11

Topics:

- Pointer review

Guess my type

```
int a;  
char *b;  
char c[10];  
int *d[10];
```

- a
- &a
- &b
- b
- *b
- c
- c[2]
- c + 2
- *(c+2)
- d[2]
- d
- *d[2]
- d+2
- *(d + 2)

Changing the value of a parameter

```
void add_five( int a )
{
    a += 5;
}
```

```
void main()
{
    int b = 8;
    printf( "b is %d.\n", b );
    add_five( b );
    printf( "after add_five, b is %d.\n", b );
}
```

After...

```
void add_five( int *a )
{
    *a += 5;
}
```

```
void main()
{
    int b = 8;
    printf( "b is %d.\n", b );
    add_five( &b );
    printf( "after add_five, b is %d.\n", b );
}
```

What happens here?

```
void add_five( int *a )
{
    int c;
    a = &c;
    *a += 5;
}

void main()
{
    int b = 8;
    printf( "b is %d.\n", b );
    add_five( &b );
    printf( "after add_five, b is %d.\n", b );
}
```

Arrays

```
void set( int *a, int b )
{
    *a = b;  /* same as a[0] = b */
}
```

```
void main()
{
    int g[10];
    g[0] = 14;
    set( &g[1], g[0] );
    set( g + 2, g[0] );
    set( g, 21 );
    set( &g[3], *g );
    set( g + 4, *(g + 2));
}
```

Question: How to swap first two elements of an array?