Arrays

Ch 7

[“Hip” , “Hip”]

Hip Hip Array
Highlights

- arrays in functions

```c
double arr[5];
foo(arr);
```

- 2D arrays

```c
int box[3][4];
// 3 rows, 4 columns
```

![2D Array Diagram](image)
Sort

Let's practice arrays by sorting!

(See: sort.cpp)
Sort

Let's practice arrays by sorting!

Plan of attack:
1. Make a new array
2. Find minimum element in original array and copy into new array
3. Replace minimum element in original array with the maximum element
4. Repeat 2 to 3 until done

(See: sort.cpp)
Multidimensional Arrays

So far we have dealt with simple (one dimensional) arrays

We have represented this as all the data being stored in a line

(See: lineWorld.cpp)
Multidimensional Arrays

```java
int foo[][] = new int[3][5];
```

- `foo`'s length = 3 (number of rows)
- `foo[0]`'s length = 5 (number of columns in row 0)
Multidimensional Arrays

If we think of a couple simple (one dimensional) arrays on top of each other...

One array for numbers 1-10

One array for numbers 71-80

(See: gridWorld.cpp)
Multidimensional Arrays

Recreate:

(See: oneToAHundred.cpp)