Arrays and functions

- Arrays can be passed as parameters to functions
  - Formal array parameters must have an empty []

  `void myArrayFunction( int one, int many[] );`

  - An array parameter is used just like an array local variable

  - But, arrays are implicitly passed by reference!
    - All changes to an array parameter change memory outside the function scope
    - You never would have a formal parameter `int &many[]`

Arrays and functions

- When calling a function with an array parameter:
  - You must provide an array variable for that parameter
  - It will be passed in by reference
  - Syntax: just the variable name, like any other parameter
    - Note the difference syntax for the formal parameter vs. the actual parameter

```
int my_function( int param[] );
…

int x, array_var[20];
x = my_function( array_variable );
```

Arrays and functions

- Four different array syntaxes
  - Declaration
    - `y[50]`
    - Subscript notation to specify the size of the array
  - Accessing an element
    - `y[20]`
    - Subscript notation to specify the *index*
  - Formal parameter
    - `y[]`
    - Must tell the function that the parameter is an array (not a regular variable)
  - Actual parameter
    - `y`
    - No additional information necessary