

CSCI 1370

FEBRUARY 19, 2016

FUNCTION PROTOTYPES

- Like variables, functions must be *declared* before they are used.
- That's why we've been putting them before **main**.
 - Defining our functions before **main** suffices as the *declaration* of our functions.
- In general, it is good practice to put **main** first.
 - To do so, we need to use *function prototypes*.

RECALL

```
void aFunction(int a, int b) { \\ function definition
    b = a * 2;
    a = b + 1;
    b = a;
}

int main() {
    int num1 = 3;
    int num2 = 4;
    aFunction(num1, num2);
}
```

FUNCTION PROTOTYPE

- Instead, we can *declare* our functions with a **prototype**.
- Looks just like a function header, as a statement:
 - **`void aFunction(int a, int b);`**
- As long as the declaration is placed before the function is used, you can put the definition anywhere in the file.

EXAMPLE

```
using namespace std;
```

```
void aFunction(int a, int b); \\ function prototype
```

```
int main() {  
    int num1 = 3;  
    int num2 = 4;  
    aFunction(num1, num2);  
}
```

```
void aFunction(int a, int b) { \\ function definition  
    b = a * 2;  
    a = b + 1;  
    b = a;  
}
```

EXERCISE

- Write the **prototype** for the following functions:
 - `sum_three` (takes in three doubles, returns a double)
 - `max` (takes in two doubles, returns a double)
 - `calculate_grade` (takes in an integer, returns a char)