

## C++ Day 7 Commands, Functions, and Tricks:

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### Function prototype (i.e. declaration):

- Purpose: tells the compiler that an upcoming piece of code refers to a new function, specifying the 1) output type of the function (if any), 2) the name of the function, and 3) the data types (and optionally names) of inputs to the function (if any).
  - Note: function declarations are listed **outside and before** main()
  - Examples:
    - Declare a new function called "DistanceToTossChicken()" that outputs a float-type number and has one int-type input called "Force\_in\_Newtons"  

```
float DistanceToTossChicken(int Force_in_Newtons);
```
    - Declare a new function called "CatchChicken()" that outputs a bool-type variable and has one bool-type input called "LikeThisChicken" and one int-type input called "NumClaws"  

```
bool CatchChicken(bool LikeThisChicken, int NumClaws);
```
    - Declare a new function called "ChickenFirstInitial()" that outputs a char-type variable and has no inputs  

```
char ChickenFirstInitial();
```
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### Calling/Using a function:

- Purpose: after a function is declared (i.e., prototyped, as described above), it can be used within the main() function or other functions in order to obtain a result
  - Examples:
    - Store into floating point variable "y" the result of function "DistanceToTossChicken()" listed above. Use the int-type variable "x" as the input  

```
y = DistanceToTossChicken(x);
```
    - Store into floating point variable "y" the value 5 times the result of the function "DistanceToTossChicken()" with the number "15" as the input  

```
y = 5 * DistanceToTossChicken(15);
```
    - Output to the screen the result of the function "ChickenFirstInitial()" listed above  

```
cout << ChickenFirstInitial();
```
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### Creating/Writing a function:

- Purpose: details the code that should operate when the function is called
- Note: functions are listed **outside and after** main()
- Examples:
  - Create the function "DistanceToTossChicken()" that was declared above  

```
float DistanceToTossChicken(int Force_in_Newtons)
{
    float distance;
    distance = Force_in_Newtons * 5 + 1;
    return distance;
}
```