

# C++ Functions

# C++ Function

- A group of C++ statements given a name to perform a specific task

- Syntax:

```
data-type  function-name( parameter1,  
parameter2, ...)
```

```
{
```

```
    // do something
```

```
}
```

# C++ Function Elements

- Function Return Type
  - The type of the value returned by the function
- Function Name
  - Identifier by which the function can be called
- Parameters: list of types and variable names separated by comma

# How C++ Function Works

- Function Prototype
- Function definition
- Parameters: list of types and variable names separated by comma
- Function call/invoking

# Types of Functions and Function Calls

- Library Functions:
  - The C++ Standard Library provides a rich collection of functions.
- User-Defined Functions:
  - Functions that you write
- Function call/invoking
  - A function is invoked by a function call, and when the called function completes its task, it either returns a result or simply returns control to the caller.

# Function Return

- If the function does return a result, the return statement syntax will be:

return expression ;

- Evaluates expression and returns the value of expression to the caller.

# Function Prototype

- A function prototype (also called a function declaration) tells the compiler
  - the name of a function
  - the type of data returned by the function
  - the number of parameters the function expects to receive
  - the types of those parameters and
  - the order in which the parameters of those types are expected.