# Applied Coding - Language Skill (Functions)

## Solve the following problems using computer with help of Python/C++/Java/C# language as means of communication.

### Problem 1: Compute the Hypotenuse

Write a function named *getHypotenuse* that takes the lengths of the two shorter sides of a right triangle as its parameters. Return the hypotenuse of the triangle, computed using Pythagorean theorem, as the function's result. Include a main program to demonstrate your function.

### Problem 2: Is It a Valid Triangle?

In general, if any one length is greater than or equal to the sum of the other two then the lengths cannot be used to form a triangle. Otherwise they can form a triangle. Create a function named *isValidTriangle* that determines whether or not three lengths can form a triangle. The function will take 3 parameters and return a boolean result. If any of the lengths are less than or equal to 0 then your function should return False. Otherwise it should determine whether or not the lengths can be used to form a triangle, and return the appropriate result. Include a main program to demonstrate your function.

### Problem 3: Is Prime?

A prime number is an integer greater than 1 that is only divisible by one and itself. Create a function named *isPrime* that determines whether or not its parameter is prime, returning true if it is, and false otherwise. Write a main program that reads an integer from the user and displays a message indicating whether or not it is prime.

### Problem 4: Next Prime

Create a function named *nextPrime* that finds and returns the first prime number larger than some integer, n. The value of n will be passed to the function as its only parameter. Include a main program that reads an integer from the user and displays the first prime number larger than the entered value.

### Problem 5: Check Password

Create a function named *checkPassword* that determines whether or not a password is good. We will define a good password to be a one that is at least 8 characters long and contains at least one uppercase letter, at least one lowercase letter, and at least one number. Your function should return true if the password passed to it as its only parameter is good. Otherwise it should return false. Include a main program that reads a password from the user and reports whether or not it is good.