# Lab 03 - Boolean Problems & Function Definitions

**Direction: Submit your typed work(s) as an upload(s) to the Labs directory of your GitHub repository or Dropbox, or in your correct Lab03 google classroom assignment. Each part should be a separate files. The files named should be `"lab3A.txt"` and `"lab3B.cpp"` respectively.**

## Part A: In class

Your objective is to write the boolean expressions that are described below. Assume that the variables in the descriptions are already initialized.

- ☐ Write an expression that determines if two integers, *a* and *b*, are consecutive numbers.
- ☐ Write an expression that determines if a day, *dy*, fell on a Thursday in the month of October 2020 (the first Thursday is on the 8th).
- ☐ Write an expression that determines if an integer, *n*, is a negative four digit number.
- ☐ Write an expression that determines if a string, *wd*, equals `"so"` ignoring case.

## Part B: Take home

Your objective is to write a complete cpp program that defines the following functions and calls them in the main function.

- ☐ A double function named `Perimeter()` that takes two double parameter named *lh* and *wh*. It returns the perimeter of a rectangle whose length and width are equal to *lh* and *wh* respectively.
- ☐ A void function named `Distance()` that takes two double parameters and a double reference parameter named *a*, *b* and *r* respectively. It assigns the distance between *a* and *b* to *r*.
- ☐ A string function named `Arrangements()` that takes three char parameters named *a*, *b* and *c* respectively. It returns a string of all of the three letter strings of the parameters with each arrangement separated by a space.