# Algorithms and data structures

## Labwork 1

After each labwork session:

- Students can submit their work in Google Classroom.
- Compress all code source files in a zip file and rename it as FULLNAME-ID-Lab#no.zip (e.g NguyenVanA-BI10-070-Lab1.zip). Save your files according to the exercise number i.e Ex1.cpp, Ex2.c, etc. Incorrect filenames will result in no score for the respective exercises.
- Only code source files (.c or .cpp) should be in a zip file. Other files (.exe, .o) MUST be removed from the zip file.

**Exercise 1**:
Write a pseudocode and implement a program in C to swap the first and last digits of a positive integer.

**Exercise 2**:
Complete this given function void findMax(int *max, int a), which assigns a value a to max if a > max.

**Exercise 3**:
Write a structure to represent complex numbers and complete operators: add and multiply.

**Exercise 4**:
Write a pseudo-code by commenting in the file then implement a program in to enter a natural number n and verify whether n is sphenic. Calculate the complexity of your program.
Note: A sphenic number is a product of p*q*r where p, q, and r are three distinct prime numbers. Example: 30 = 2 * 3* 5; 42 = 2*3*7; 66 = 2*3*11