Lab's Scope:

- **Struct and enum**

Problem 1:

Declare a structure to represent a rectangle where a rectangle has members length, width, perimeter, and area. Write a C++ application that declares a variable of a struct rectangle where the height and width are given by the user. The application should then calculate the perimeter and area of the rectangle and store them in member variables perimeter, and area of the struct. The application should print members of the struct area and perimeter.

*Hint: Area of rectangle = length * width.*
 Perimeter of a rectangle = 2(length + width)*

Problem 2:

Declare a structure to represent a student where a student has a name and age. Write a C++ application that declares an array of struct students.

- Write a function that gets information about all students from the user.
- Write a function that given the array of students, should print only the students with age more than or equal to 14 years.
- Let the application call the functions.

Problem 3:

Declare a structure complex to represent a complex number where a complex number has members real (float) and imaginary (float). Write a C++ application that declares two complex numbers of struct complex. Write three functions to add, subtract, and multiply two complex numbers and display the results.

Hint: Adding two complex numbers by adding their real members and storing them in the real member of the result, then adding imaginary members and storing them in the imaginary member of the result. (the same concept for subtraction and multiplication)

Problem 4:

Write a structure Customer to store the name, account number, and balance of customers.

- Write a function that lets the customer withdraw from his account an amount of money that affects his balance and print the new balance.
- Write a function that lets the customer deposit to his account an amount of money that affects his balance and print the new balance.
- Create an application that lets a customer withdraw and deposit from his account.

Problem 5:

Write a program that involves a struct called Employee that has members ID, name, salary, and performance. Declare an array of 3 employees.

- Write a function to get the information of each Employee.
- Write a function that increments the salary of the employee by 20% if his performance is more than or equal to 80%.
- Write a function that prints the employees' data after salary change.

Problem 6:

Write an application that involves an enum representing the days of the week, starting that Sunday as day number 1. The application should declare a variable the enum and take an int value from the user and print out which day of the week it is according to the number entered.