COURSE: (CL-1004) OBJECT ORIENTED PROGRAMMING LAB
LAB TASK # 07
WEIGHTAGE: 2

NOTE:
Only submit .cpp file of each question in a folder. Anyone who submits any other format file will get straight **ZERO.** Each question should have a separate .cpp file. Copy Paste or other UFM will also get **ZERO**. Use the following format for naming the folder Roll#_Name (P18-1234_NAME).

Q No.1: Write the definition for a class called **Rectangle** that has floating point data members length and width. The class has the following member functions:
void setlength(float) to set the length data member
void setwidth(float) to set the width data member
float perimeter() to calculate and return the perimeter of the rectangle
float area() to calculate and return the area of the rectangle
void show() to display the length and width of the rectangle
int sameArea(Rectangle) that has one parameter of type Rectangle. sameArea returns 1 if the two Rectangles have the same area, and returns 0 if they don't.

1. Write the definitions for each of the above member functions.
2. Write main function to create two rectangle objects. Set the length and width of the first rectangle to 5 and 2.5. Set the length and width of the second rectangle to 5 and 18.9. Display each rectangle and its area and perimeter.

3. Check whether the two Rectangles have the same area and print a message indicating the result. Set the length and width of the first rectangle to 15 and 6.3. Display each Rectangle and its area and perimeter again. Again, check whether the two Rectangles have the same area and print a message indicating the result.

Q No.2: Write the definition for a class called **complex** that has floating point data members for storing real and imaginary parts. The class has the following member functions:
void set(float, float) to set the specified value in object
void disp() to display complex number object
complex sum(complex) to sum two complex numbers & return complex number

1. Write the definitions for each of the above member functions.
2. Write main function to create three complex number objects. Set the value in two objects and call sum() to calculate sum and assign it in third object. Display all complex numbers.

Note: For user understanding purposes you should write comment with each line of code.