Assignment 1

1. Write a program and input two integers in main and pass them to default constructor of the class. Show the result of the addition of two numbers.

2. Write a program which perform arithmetic operations. All the function definitions should define outside the class.

3. Write a program which has Shape class. This class will overload the area() method to find area of square (if area() has 1 argument), rectangle (if area() has 2 arguments), trapezoid (if area() has 3 arguments).

4. Define a class student with the following specification
   Private members of class student
   admno integer
   sname 20 character
   eng. math, science float
   total float
   ctotal() a function to calculate eng + math + science with float return type.
   Public member function of class student
   Takedata() Function to accept values for admno, sname, eng, science and invoke ctotal() to calculate total.
   Showdata() Function to display all the data members on the screen.

5. 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.
   - Write the definitions for each of the above member functions.
   - 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.
   - 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.

6. 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

7. Write the definition for a class called Distance that has data member feet as integer and inches as float. The class has the following member functions:
   void set(int, float) to give value to object
   void disp() to display distance in feet and inches
   1. Write the definitions for each of the above member functions.
   2. Write main function to create three Distance objects. Set the value in two objects and overload '+' operator to calculate sum and assign it in third object. Display all distances. ()

8. Write the definition for a class called time that has hours and minutes as integer. The class has the following member functions:
   void settime(int, int) to set the specified value in object
   void showtime() to display time object
   time sum(time) to sum two time object & return time
   1. Write the definitions for each of the above member functions.
   2. Write main function to create three time objects. Set the value in two objects and call sum() to calculate sum and assign it in third object. Display all time objects.