An angle can be measured in degrees, minutes, and seconds. For example, 149 degrees 34 minutes, 48 seconds. There are 60 minutes in a degree, 60 seconds in a minute.

Task 1

Create an Angle class. Create test code in main function to display one object of this class created using the default constructor, one object created by a three argument constructor, and one default object modified by a GetDataKB (Get Data from the KeyBoard) member function.

Task 2

Overload the '+' operator as a non-member function. Ask the user to create 2 Angle objects and display their sum. Make sure that the answer doesn't display 75 seconds or 83 minutes!

Task 3

Overload both ++ operators to add one degree to the angle

Task 4

Overload the '-' operator as a non-member function. Ask the user to create 2 Angle objects and display their difference. Assume that the second angle is smaller than the first. But your code should correctly handle the case:

40d 5m 10s - 20d 20m 20s

Task 5

Overload the '==', '<' and '>' operators to compare two Angle objects. This should be done as member functions.

Task 6

Overload the '>>' operator, which will read in data from the format " DD MM SS" where DD=degrees (not necessarily just two digits) , MM=minutes and SS=seconds (these will be integers).

EXTRA CREDIT Modify your ">>" operator to read in either "DD MM SS" format OR "DD:MM:SS" OR both formats.

Task 7

Overload the '<<' operator to display an angle object in the form of “DD:MM:SS”.

Task 8

Write a driver program to read in two angle objects from the keyboard and print both the sum and difference of these objects. (In theory, you’ve already done most of the work for this).