**Jaypee University of Engineering and Technology, Guna**

**Department of Computer Science and Engineering**

**Object Oriented Programming Lab (18B17CI271)**

**Lab Exercise-6**

**[Imp Note: All the programs must be written in C++ with distinguished variable names. If any kind of plagiarism is observed, the punctuality marks (10) will be awarded by zero.]**

1. Design a class Distance that includes following data members: feet, inches. It has the following member function:-
   * Constructor, that initializes the distance to 0,0 by default.
   * Parameterized Constructor that initializes the distance with some values; give a check so that the inches part is always less than 12.0.
   * Display function
   * Overloaded – operator to subtract 2 distances
   * Overloaded + operator to add 2 distances
   * Overload += and -= operator
   * Overload > and < operators to compare two distances
2. Create a class rational for performing arithmetic with fractions. Use an integer variable to represent the private data of the class-the numerator and denominator. Provide a member function to get input from the user. This function should also check that denominator entered is not 0, if it is zero print invalid input. Provide a function to display the values. Overload +, -, \*, / operators to add, subtract, multiply and divide the objects of this class.
3. Overload ‘+’ operator that adds two strings to make a third string. Write a program to do the following tasks:
   1. Create uninitialized string objects
   2. Creates the objects with string constants.
   3. Concatenates two strings properly using operator overloading.
   4. Displays a desired string object