Practical:

Q1. Write a complete definition of the class Rational with its method defined outside. The program should

a. Define Rational object called x
b. Assign values to data of x
c. Compare num and den and display minimum value
d. Define another Rational object called y
e. Multiply two rational numbers
f. Check if you can print num and den of x from main. Discuss the reason behind your observation
g. If you were not able to access num and den of x from outside, what should you do so that you can access them from anywhere?

Q2. Write a program to define class Rectangle with length and breadth as private members and appropriate member functions to read data members, calculate and display the area. Define member functions outside class.

Q3. Define a class named Complex with data members real and img. Use appropriate member function of the class which accepts two objects of the class and adds them.

Q4. Define a class named Complex with data members real and img. Use friend function to add two complex numbers.

Q5. Write a program to define class Distance with data members feet and inches of appropriate type. Define member function of the class which accepts two objects of the class and adds them.

Q6. Write a program to define class Distance with data members feet and inches of appropriate type. Define friend function which accepts two objects of Distance and adds them.

Q7. Write a program to swap private data of two classes using friend function.

Q8. Create classes called Class1, Class2, Class3, Class4 with each having one private member. Add member function to set a value (say setValue) on each class. Add one more function max() that is friendly to all classes, max() function should compare four private member of four classes and show maximum among them. Create one-one object of each class and set a value on them. Display the maximum number among them.

Q9. Create a class called Mountain with data members name, height and location. Define a member function to initialize the data members. A friend function cmpHeight() to compare height of two objects and member function displayInfo() to display information of mountain. In main create two objects of the class mountain and display the information of mountain with greatest height.

Q10. Write a program to count the total number of students that have registered their names to playing football in sports week. Define a class that has static data member to count the number of students and define member functions as required.