

BACS2023 Object-Oriented Programming

Practical #7B

Question 1

Modify your **PatientBill** class from Practical #7A's Question #1 such that it implements the **Comparable** interface as follows:

- A. Implement the **compareTo** method such that it compares the current object with the parameter object based on the *patients' name*.
- B. Test the **compareTo** method using the **selectionSort** method (to be provided by your lecturer) and observe the differences in the outputs.

Question 2

Create an interface called **Colorable** with a **void** method called **howToColor**. Create a class called **ComparableCircle** that extends **Circle** class (to be provided by your lecturer) and implements 2 interfaces:

- A. **Comparable**
- B. **Colorable**

The **compareTo** method should be implemented by comparing 2 circles on the basis of radius.

Draw the UML diagram and write a test program to find the larger of 2 **ComparableCircle** objects. Display also a message indicating how a **ComparableCircle** object to be colored.

Question 3

Draw a UML diagram for a class named Car that contains

- Two data fields
- A no-arg constructor that creates a default car
- A constructor that creates a car with the specified data fields
- Appropriate accessors and mutators