

CT5: CSE 203 (Sec B) - Object-Oriented Programming I: Java**Time: 25 min****Mark: 20****Name:****ID:**

1. Given the Student and TestIO classes below, complete the code segment of task 1 and task 2 as per the comments. [15]

```
package ct5.secB;

public class Student {
    String name;
    int id;
    double cgpa;
    public Student(String name, int id, double cgpa) {
        this.name = name;
        this.id = id;
        this.cgpa = cgpa;
    }
    @Override
    public String toString() {
        return String.format("%s:%d:%.2f", name, id, cgpa);
    }
}
```

```
package ct5.secB;

public class TestIO {
    public static void main(String[] args) {
        Student s1 = new Student("Raihan", 123, 3.5);
        Student s2 = new Student("Laila", 124, 3.75);
        // Task 1: Write code to store the values of the instance
        // variables of s1 and s2 into a file named "students.txt"

        // Task 2: Write code to read the values from "students.txt",
        // create 2 Student type object s3 and s4 using those values
        // and then print the values of those to objects

    }
}
```

2. What changes need to be made in **Student** class to serialize the objects of **Student** class. [5]

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1. Assume your OOP course teacher is storing the scores of 4 CTs in a txt file where each line contains the id of the student followed by the scores of 4 CTs as shown in the sample file below. Write a java program to read the file (one line at a time), find the highest and lowest marks of each student and write that info in a separate file. Sample input and output file is given below. [15]

Sample input file (input.txt)	Expected output file(output.txt)
22101001 20 15 18 12	22101001 20 12
22101002 18 16 20 13	22101002 20 13
22201005 19 16 0 13	22201005 19 0
22201007 18 0 20 15	22201007 20 0
22201017 10 5 20 15	22201017 20 5

2. What changes need to be made in **Teacher** class to serialize the objects of **Teacher** class but not rank? [5]

```
package ct5.secB;

public class Teacher {
    String name, designation;
    int rank;
    public Teacher(String name, String designation, int rank) {
        this.name = name;
        this.designation = designation;
        this.rank = rank;
    }
}
```