|  |  |
| --- | --- |
| **CSE1206 : Object Oriented Programming Lab Fall 2018** | **Set- B** |

**Online: 2 Date: 24 January, 2019 Group: C1 Time: 35 minutes**

**ID: Marks**

|  |  |
| --- | --- |
| 1. Create a Java Project Named **‘TestGrade’**. Inside this project (folder) create a new class named **‘Grade’**. (There should be two classes: **TestGrade** [the default class], **Grade** [the newly created class]. And the two classes should be in the same package). | **1** |
| 1. Inside the Book class declare **3** **private** variables: **courseName (String), courseNumber(String), marks (double).** | **1** |
| 1. Declare2 **public** Constructors in **Grade Class:**     1. A Consturctors that takes no parameter and initializes the variables as:   courseName = “Null”  courseNumber= “Null”  marks = -1   * 1. Another Constructor which takes all the variables as parameter and assigns the values to the variables. | **2+2** |
| 1. Declare necessary **public** getter() and setter() methods for all the variables. Set the **marks** using its **setter method** in such a way that it can never be less than zero. If less than zero is assigned then set it to 0. | **1+2** |
| 1. Create a **public** method named **checkGrade()** in **Grade** class which takes no parameter and returns a **String** variable (the grade of the course). This method calculates the grade for a particular range as follows:  |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Marks Range** | **Grade** |  | **Marks Range** | **Grade** | | **80 and above** | **A** |  | **40 to less than 50** | **D** | | **70 to less than 80** | **B** |  | **0 to Less than 40** | **F** | | **50 to less than 70** | **C** |  |  |  | | **3** |
| 1. Create another **public** method in **Grade** class named **compareGrades()** which takes **Grade** object as parameter and returns true or false (**boolean**). This method checks if the grade obtained in one course is same as the grade obtained in another course. If two grades are same then the result will be “**same**” (true) otherwise “**different**” (false). | **3** |
| 1. Now test the methods of Grade class created in the **TestGrade** Class. Take user input for two course Names, course Numbers and marks Obtained in the courses. Check the grade obtained in each particular course and print it with the particular course name and number. Compare the two grades to see the grades are same or different.   Then set the marks of Course-1 to **83** using the setter method and again compare the two grades. | **5** |

**Total: 20**

|  |  |
| --- | --- |
| Sample Input 1 | Sample Output 1 |
| Enter Course Name 1: Java  Enter Course Number 1: 1206  Marks Obtained 1: 66  Enter Course Name 2: Mechanical  Enter Course Number 2: 1211  Marks Obtained 2: 52 | Grade for Course Java 1206 is C.  Grade for Course Mechanical 1206 is C.  Grades for Course Java 1206 and Mechanical 1211 are same.  After changing the Marks:  New Grade for Course Java is A  Grades for Course Java 1206 and Mechanical 1211 are different. |

|  |  |
| --- | --- |
| Sample Input 2 | Sample Output 2 |
| Enter Course Name 1: EEE  Enter Course Number 1: 1255  Marks Obtained 1: 77  Enter Course Name 2: Java  Enter Course Number 2: 1206  Marks Obtained 2: 45 | Grade for Course EEE 1255 is B.  Grade for Course Java 1206 is D.  Grades for Course EEE 1255 and Java 1206 are different.  After changing the Marks:  New Grade for Course EEE is A  Grades for Course EEE 1255 and Java 1206 are still different. |

**Hints:**

\*user Scanner class to take input:

for string use nextLine() , for double use nextDouble()

\*When you wrtie String a= sn.nextLine()

String b=sn.nextLine()

After taking the first input when you press enter the **enter (“\n”)** that is the newline will be taken as the input for String b which you don’t want. To solve this problem you can insert another sn.nextLine() between them like this:

String a= sn.nextLine()

Sn.nextLine()

String b=sn.nextLine()

So after you take the first input and press enter the middle nextLine() will take the newline input and then won’t effect your String b input. Do this after each String if you have more inputs.