Week 1- Batch3

Q1: Create a class name “GreatestNumber” and define a method that displays the greatest among the three-given number.

Program:

```
import java.util.Scanner;
public class GreatestNumber {

public static void main(String[] args) {
// TODO Auto-generated method stub
Scanner sc = new Scanner(System.in);
System.out.println("Enter Three numbers");
int n1 = sc.nextInt();
int n2 = sc.nextInt();
int n3 = sc.nextInt();
System.out.println("Greatest number is ");

if (n1 > n2 && n1 > n3)
System.out.println(n1);
else if (n2 > n1 && n2 > n3)
System.out.println(+n2);
else if (n3 > n1 && n3 > n2)
System.out.println(n3);
else if (n1 == n2 && n2 == n3) {
System.out.println(n1+ " All numbers are same.");
        }

}

}
```

Output:

Input	Expected Output	My Output
12,-112,0	12	12
23, 45, 15	45	45
-1, -15, -30	-1	-1
-1, 0, 1	1	1
12, 12, 12	12, All values are same	12, All values are same
24, 35, c	Error	Error

Q2: Write a Java program to read an int number, double number and a char from keyboard and perform the following conversions: int to byte, char to int, double to byte, double to int.

Program:

```
import java.util.Scanner;
public class Conversion {

public static void main(String[] args) {
// TODO Auto-generated method stub
Scanner sc = new Scanner(System.in);
System.out.println("Enter an integer");
int i = sc.nextInt();
```

```
System.out.println("Enter a double value");
double d = sc.nextDouble();
System.out.println("Enter a character");
char c = sc.next().charAt(0);
byte b1 = (byte) i;
int c1 = (int) c;
byte b2 = (byte) d;
int i1 = (int) d;
System.out.print("Int to byte for i= " + i + " is " + b1 );
System.out.print("char to int for c= " + c+ " is " + c1);
System.out.print("double to byte for d= " + d+ " is " + b2);
System.out.print("double to int for d= " +d+  " is " +i1);

}

}
```

Output:

Input	Expected Output	My Output
12, 34.56, h	Int to byte = 12 Char to int = 104 Double to byte = 34 Double to int = 34	Int to byte = 12 Char to int = 104 Double to byte = 34 Double to int = 34
-12, -34.56, C	Int to byte = -12 Char to int = 67 Double to byte = -34 Double to int = -34	Int to byte = -12 Char to int = 67 Double to byte = -34 Double to int = -34
12.00,	Error	Error

Q3: A Taxi service offers a new service based on travel distance. Write a Java program to calculate the total distance travelled by considering following charges. First 5 KM = INR 10, Next 15 KM = INR 8, Next 25 KM = INR 5.

Program:

```
import java.util.Scanner;
public class taxi {

public static void main(String[] args) {
// TODO Auto-generated method stub
Scanner sc = new Scanner(System.in);
      System.out.print("Enter the cost : ");
      double cost = sc.nextDouble();
      double distance = 0;

      if(cost ==0)
      distance=0;
      else if(cost <=50)
      distance=cost /10;
      else if(cost <=170)
      distance=5+((cost -50)/8);
      else
      distance=20+((cost -170)/5);
      System.out.print("Total Distance travelled = ");
      System.out.print(distance);
      System.out.println(" Km");
```

```
}

}
```

Output:

Input	Expected output	My output
222.0	30.4 Km	30.4 Km
56.89	5.86 Km	5.86126 Km
-130	Error	Error
12.e0	1.2 Km	1.2 Km

Bonus Question:

Department of Computer Applications has two courses, namely, B.Tech DSE and MCA. After conduction of first Internals, the department staff needs to calculate each student's total marks of all the core subjects. For this issue, create a student class with regno, name, sub1, sub2, sub3, courseName as the data members. The internals marks are calculated based on the following formula for:

B.Tech-
50%ofsub1+25%ofsub2+25%ofsub3

MCA-
40%ofsub1+30%ofsub2+30%ofsub3

Display minimum of 3 students in each course with respective subjects marks and total internal marks based on the formula considering 3 core subjects.

Program:

```
import java.util.*;
public class Bonus {

int RNo;
String Name;
double M1, M2, M3;
String Course;

void input() {
Scanner in = new Scanner(System.in);
System.out.println("Enter Name:  ");
Name = in.nextLine();
System.out.println("Enter the Course Name: ");
Course = in.nextLine();
System.out.println("Enter Register Number:  ");
RNo = in.nextInt();
System.out.println("Enter M1: ");
M1 = in.nextInt();
System.out.println("Enter M2: ");
```

```
M2 = in.nextInt();
System.out.println("Enter M3: ");
M3 = in.nextInt();

}

void bcalc() {
double marks = (0.5*M1)+(0.25*M2)+(0.25*M3);
System.out.println("Internal Marks: " + marks);
}

void mcalc() {
double marks = (0.4*M1)+(0.3*M2)+(0.3*M3);
System.out.println("Internal Marks: " + marks);
}

void display() {
System.out.println("Registration Number:  " +RNo);
System.out.println("Name:  " +Name);
System.out.println("M1:  " +M1);
System.out.println("M2:  " +M2);
System.out.println("M3:  " +M3);
}

public static void main(String[] args) {
int i = 0;
for(i=0; i<6; i++) {
Bonus s = new Bonus();
s.input();
s.display();

String str1 = "DSE";
String str2 = "MCA";

if((str1).equals(s.Course)) {
s.bcalc();
}

else if((str2).equals(s.Course)) {
s.mcalc();
}

}

}}
```

Output:

Name	Course	Marks1	Marks2	Marks3	Expected Total	My Total
Clark Kent	Btech	45	40	48	44.5	44.5
Peter Parker	MCA	46	42	38	42.5	42.4
Tony Stark	Btech	45	44	43	44.25	44.25
Diana Spencer	Btech	45	48	44	45.5	45.5
Bruce Lee	MCA	49	47	48	48.25	48.1
Natasha	MCA	41	43	47	43	43.4