

Programme Name: **BCS**

Course Code**: CSC 1510**

Course Name: **Programming Fundamentals**

Assignment: **First**

Date of Submission: **4/19/2020**

**Submitted by: Submitted to:**

Student Name: **Dipesh Tha Shrestha** Name: **Prakash Chandra**

Semester: **Second**

Section: **A**

Intake**: 2019 September**

**QUESTION NO 1**

**a. Define constructor**

A constructor is a special method of a class or structure in object-oriented programming that initializes an object of that type. A constructor is an instance method that usually has the same name as the class, and can be used to set the values of the members of an object, either to default or to user-defined values.

**b. Explain its usage with an example.**

The purpose of **constructor** is to initialize the object of a class while the purpose of a method is to perform a task by executing **java** code. **Constructors** cannot be abstract, final, static and synchronised while methods can be.

A constructor resembles an instance method in java but it’s not a method as it doesn’t have a return type. In short constructor and method are different(More on this at the end of this guide). People often refer constructor as special type of method in Java.

Constructor has same name as the class and looks like this in a java code.

public class MyClass{

//This is the constructor

MyClass(){

}

..

}

**QUESTION NO .2**

**a. Explain static variable.**

*The****static variable****can be used to refer to the common property of all objects (which is not unique for each object), for****example****, the company name of employees, college name of students, etc. The****static variable****gets memory only once in the class area at the time of class loading.*

**b. Write a java program to count the number of objects created, using the concept of static variable**

// Java program Find Out the Number of Objects Created

// of a Class

class Test {

static int noOfObjects = 0;

// Instead of performing increment in the constructor

// instance block is preferred to make this program generic.

{

noOfObjects += 1;

}

// various types of constructors

// that can create objects

public Test()

{

}

public Test(int n)

{

}

public Test(String s)

{

}

public static void main(String args[])

{

Test t1 = new Test();

Test t2 = new Test(5);

Test t3 = new Test("GFG");

// We can also write t1.noOfObjects or

// t2.noOfObjects or t3.noOfObjects

System.out.println(Test.noOfObjects);

}

}

Output:

3

**3.Write a full JAVA program to record the information of 10 students in a file called record.txt. The program should ask the user to enter the student’s name and total marks obtained in three tests.**

import java.io.FileWriter;

import java.util.Scanner;

class Recordtest{

public static void main(String[] args) {

FileWriter out = null;

String name[] = new String[3];

double test1[] = new double[3];

double test2[] = new double[3];

double test3[] = new double[3];

Scanner sc = new Scanner(System.in);

try{

out = new FileWriter("record.txt");

out.write("Name\tTest1\tTest2\tTest3\n");

for(int i=0;i<3;i++){

System.out.println("Enter record of: "+(i+1)+" student");

name[i] = sc.next();

test1[i] = sc.nextDouble();

test2[i] = sc.nextDouble();

test3[i] = sc.nextDouble();

}

System.out.println("writting records to file....");

for(int i=0;i<3;i++){

out.write(name[i]+"\t"+test1[i]+"\t"+test2[i]+"\t"+test3[i]+"\n");

}

out.close();

sc.close();

}catch(Exception e){

System.out.println(e.getMessage());

}

}

}