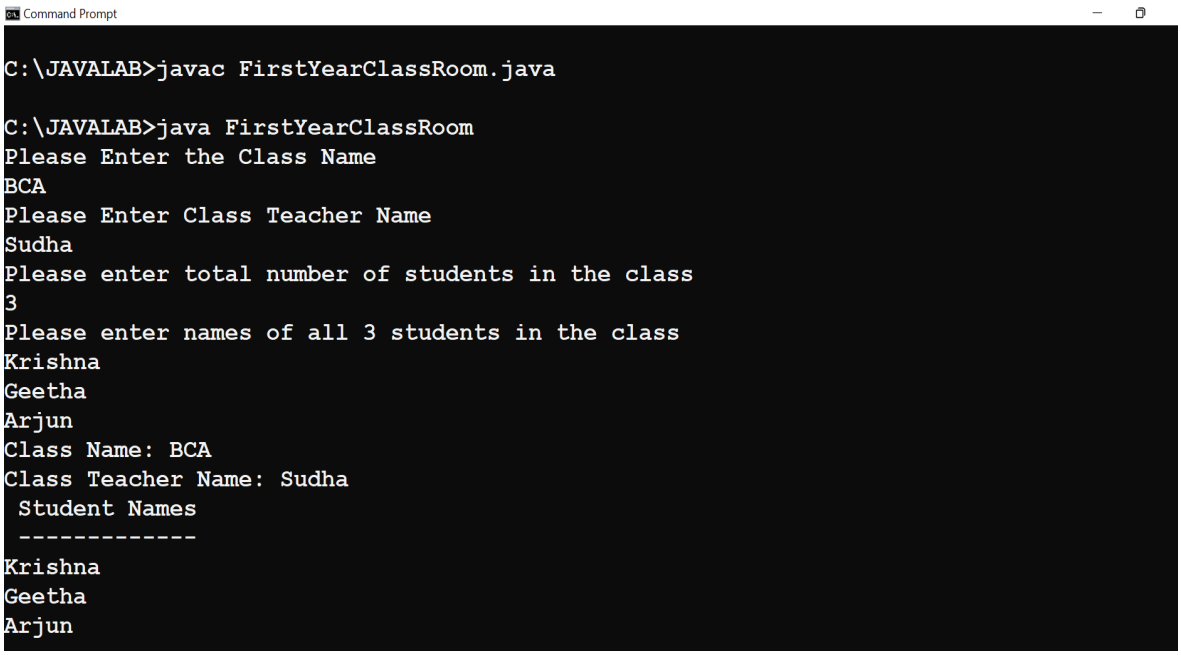
Part A (8-11)

```
/*
Program-8: In a college first year class are having the following attributes
        Name of the class (BCA, BCom, BSc),
        Name of the staff   (Class Teacher Name)
        No of the students in the class,
        Array of students in the class.
        Display Student Information
 */
import java.util.Scanner;
public class FirstYearClassRoom {
    String className;
    String  classTeacherName;
    int studentCount;
    String studentName[] = new String[50];  // Student Name Array

    Scanner sc  = new Scanner(System.in);

   // Below is constructor function that is called when you create object of this class
    public  FirstYearClassRoom(){
        getInfo();
    }

    private void getInfo()
{
        System.out.println("Please Enter the Class Name");
        className = sc.nextLine();

        System.out.println("Please Enter Class Teacher Name");
        classTeacherName = sc.nextLine();
```

```
        System.out.println("Please enter total number of students in the
class");
        studentCount = Integer.parseInt(sc.nextLine());


        System.out.println("Please enter names of all " + studentCount + "
students in the class");
        for ( int i =0; i < studentCount  ; i ++){
           studentName[i] = sc.nextLine();
        }
    }


    public void display()
{
        System.out.println("Class Name: " + className);
        System.out.println("Class Teacher Name: " + classTeacherName);
        System.out.println(" Student Names ");
        System.out.println(" ------------- ");
        for ( int i =0; i < studentCount  ; i ++){
           System.out.println(studentName[i] );
        }
    }


    public static void main (String args[]){
        FirstYearClassRoom  fy = new FirstYearClassRoom();  // this will
trigger getinfo function
        fy.display();
    }


}
```

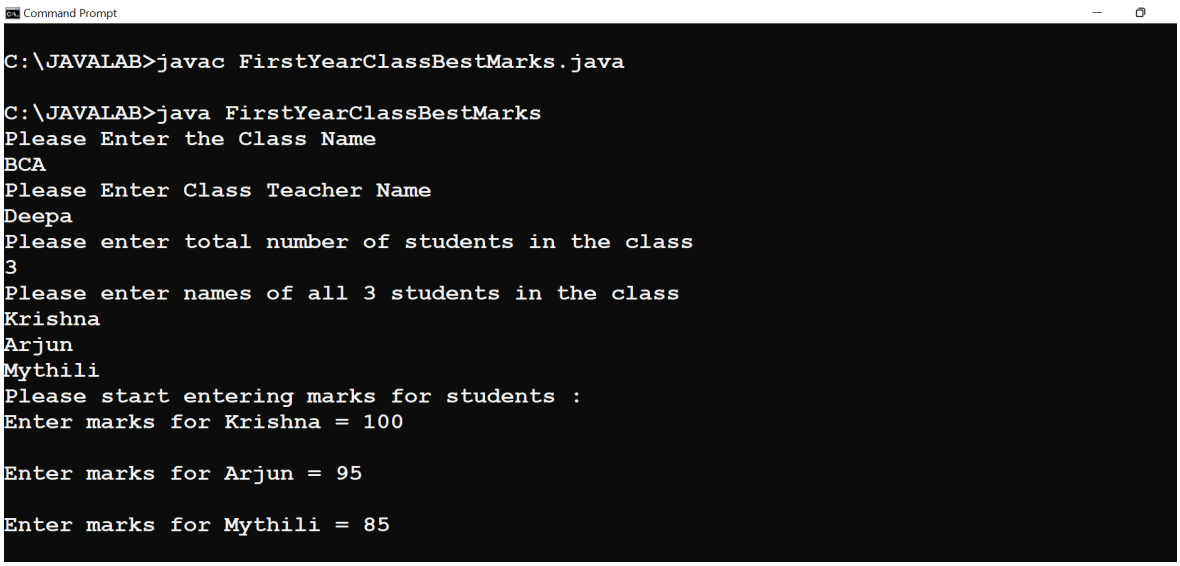



```
/*
Program-9: Define a class called first year with above attributes and define a suitable
constructor.
Also write a method called best Student () which process a
first-year object and return the student with the highest total mark. In the
main method define a first-year object and find the best student of this class
 */
import java.util.Scanner;
public class FirstYearClassBestMarks {

    String className;
    String  classTeacherName;
    int studentCount;
    String studentName[] = new String[50];  // Student Name Array
    int studentMarks[ ] = new int[50];     // Student Marks Array
    Scanner sc  = new Scanner(System.in);
    // Below is constructor function that is called when you create object of this class
```

```
    public  FirstYearClassBestMarks(){
        getInfo();
    }
    private void getInfo(){

        System.out.println("Please Enter the Class Name");
        className = sc.nextLine();

        System.out.println("Please Enter Class Teacher Name");
        classTeacherName = sc.nextLine();

        System.out.println("Please enter total number of students in the
class");
        studentCount = Integer.parseInt(sc.nextLine());

        System.out.println("Please enter names of all " + studentCount + "
students in the class");
        for ( int i =0; i < studentCount  ; i ++){
            studentName[i] = sc.nextLine();
        }
        System.out.println("Please start entering marks for students :");
        for ( int i =0; i < studentCount  ; i ++){
            System.out.print("Enter marks for " + studentName[i] + " = ");
            studentMarks[i] =sc.nextInt();
            System.out.println();  // go to next line
        }

    }

    public void display(){
        System.out.println("Class and Student Info Display");
        System.out.println("Class Name: " + className);
        System.out.println("Class Teacher Name: " + classTeacherName);
```

```
        System.out.println(" Student Names   Marks");
        System.out.println(" -------------   ------");
        for ( int i =0; i < studentCount  ; i ++){

           System.out.println(studentName[i] + "    " + studentMarks[i]);
        }

    }

    public void bestStudent(){
        int best = 0;  // variable to keep track of best marks till now when looping
        int k = -1 ;   // variable to keep track of best student-index. Note that since index start from 0, initialize this to -1.

        // loop through all student marks and pick best marks.
        for(int i=0; i <= studentCount ; i++){

           if( studentMarks[i] > best ){
              best = studentMarks[i];
              k = i;  // keep track of index. As student at this index is best marks.
           }
        }

        // once out of loop you will have student who got best marks. student index is k.
        System.out.println("The best student is -" + studentName[k]);
        System.out.println("He/She scored marks which was highest - " + studentMarks[k]);
    }
    public static void main (String args[]){
        FirstYearClassBestMarks  fyBestMarks = new FirstYearClassBestMarks();  // this will trigger getinfo function
```

```
        fyBestMarks.display();
        fyBestMarks.bestStudent();
    }
}
```



Output:

```
Class and Student Info Display
Class Name: BCA
Class Teacher Name: Deepa
 Student Names    Marks
 -------------    ------
Krishna     100
Arjun     95
Mythili     85
The best student is -Krishna
He/She scored marks which was highest - 100
```

/* Program 10: Program to define a class called employee with the name and date of

appointment. Create ten employee objects as an array and sort them as per

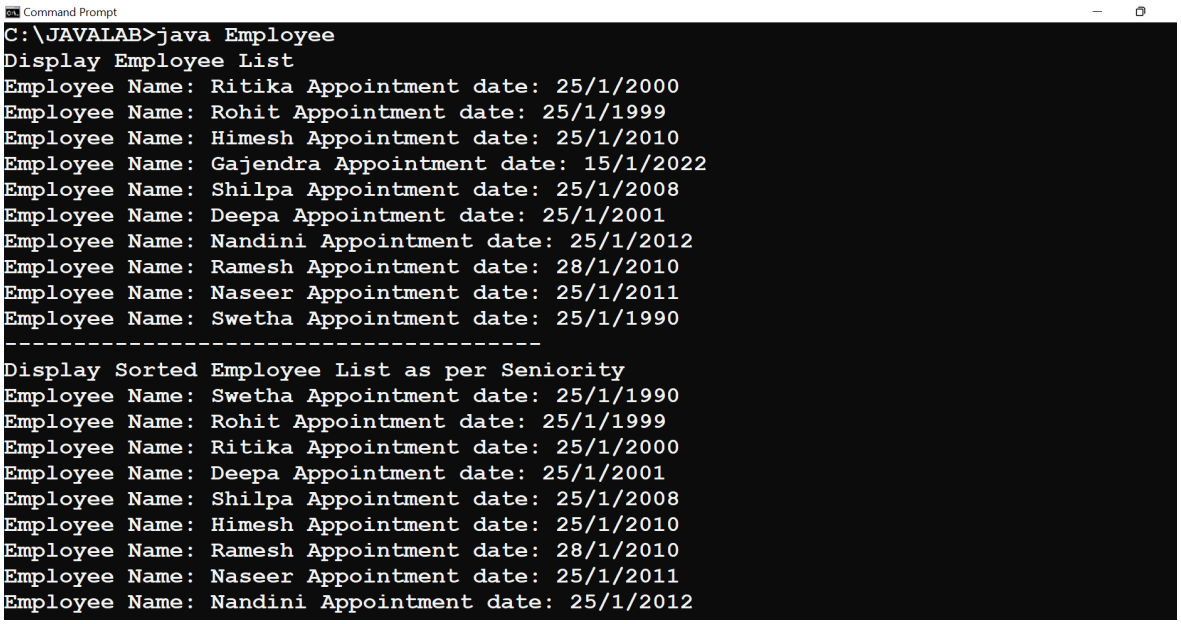
their date of appointment. ie, print them as per their seniority

***/**

```
import java.util.Date;

public class Employee {
    String employeeName;
```

```
   Date appointmentDate;

   //Constructor
   public Employee(String name, Date aptDate){
      employeeName = name;
      appointmentDate = aptDate;
   }

   public static void main (String args[]){

      Employee emp[] = new Employee[10];  // array of 10 employee
objects

      emp[0] = new Employee("Ritika", new Date(2000,1,25));
      emp[1] = new Employee("Rohit", new Date(1999,1,25));
      emp[2] = new Employee("Himesh", new Date(2010,1,25));
      emp[3] = new Employee("Gajendra", new Date(2022,1,15));
      emp[4] = new Employee("Shilpa", new Date(2008,1,25));
      emp[5] = new Employee("Deepa", new Date(2001,1,25));
      emp[6] = new Employee("Nandini", new Date(2012,1,25));
      emp[7] = new Employee("Ramesh", new Date(2010,1,28));
      emp[8] = new Employee("Naseer", new Date(2011,1,25));
      emp[9] = new Employee("Swetha", new Date(1990,1,25));

      System.out.println("Display Employee List");
      for(int i=0 ; i < emp.length; i++){
         System.out.println( "Employee Name: " + emp[i].employeeName
+
               " Appointment date: " + emp[i].appointmentDate.getDate()
+ "/" + emp[i].appointmentDate.getMonth() + "/" +
emp[i].appointmentDate.getYear() );
```

```
        }
        // Do sorting. Sort based on date.

        for(int i=0 ; i < emp.length; i++)
{

           for (int j = i + 1; j < emp.length; j++) {
              if (emp[i].appointmentDate.after(emp[j].appointmentDate)) {
                 //swap
                 Employee temp = emp[i];
                 emp[i] = emp[j];
                 emp[j] = temp;
              }
           }
        }
        System.out.println("---------------------------------------");
        System.out.println("Display Sorted Employee List as per Seniority
");
        for(int i=0 ; i < emp.length; i++){
           System.out.println( "Employee Name: " + emp[i].employeeName
+
                    " Appointment date: " +
emp[i].appointmentDate.getDate() + "/" +
emp[i].appointmentDate.getMonth() + "/" +
emp[i].appointmentDate.getYear() );
        }
        } // main end
}
```



11. Create a package 'student. Fulltime.BCA ' in your current working directory.

a. Create a default class student in the above package with the following attributes: Name, age, sex.

b. Have methods for storing as well as displaying.

Program:

Step 1: The source file should be named *student.java* and stored in the subdirectory *student_Fulltime_BCA*. The resultant *student.class* will be stored in the same subdirectory.

```
package student_Fulltime_BCA;
public class student
{
String name;
int age;
String sex;
public void input()
{
name="Ashwini";
age=20;
sex="Female";
```

```
}
public void display()
{
System.out.println("Name of the Student:"+name);
System.out.println("Age:"+age);
System.out.println("Gender:"+sex);
}
}
```

Step 2: The following code (packagetest.java) shows the importing *student* class from the *student_Fulltime_BCA* package.

```
// Importing package
import student_Fulltime_BCA.*;
class packagetest
{
public static void main (String arg[])
{
student ob=new student();
ob.input();
ob.display();
}
}
```

Output:

```
Name of the Student: Ashwini
Age:20
Gender: Female
```