IV_CSE 207 L_CSE C J_Arraysstaticmethods

Pause Test | Submit Test | 97:33

Test will be auto submitted in 210 minutes from the test start time or at 01-03-2023 11:01:00 PM whichever is earlier

Arrays and ... 6

Q - 1 Report Error

Single File Programming Question **Marks : 10 Negative Marks : 0**

(Locate the largest element)
Write the following method that returns the location of the largest element in a two-dimensional array.
public static int[] locateLargest(double[][] a)
The return value is a one-dimensional array that contains two elements. These two elements indicate the row and column indices of the largest element in the two-dimensional array. Write a program that prompts the user to enter a two dimensional array and displays the location of the largest element in the array.

Input format

The first line represents the number of rows and number of columns

Next lines are the elements of the two dimensional array

Sample testcases

Input 1	Output 1
4 4 23.5 6 7 8.8 2.1 9 10 7 3 5 6 7 56 32.5 1 9	The largest is located at [3, 0]

Note :

The program will not be evaluated if "Submit Code" is not done atleast once

Whitelist

Set 1: public static int[] locateLargest

Fill your code here Java (11)

```
// You are using Java
import java.util.*;
class LocateLargest{
    public static void main(String args[]){
        Scanner sc=new Scanner(System.in);
        int row=sc.nextInt();
        int column=sc.nextInt();
        double [][]arr=new double[row][column];
        for(int i=0;i<row;i++){
            for(int j=0;j<column;j++){
                arr[i][j]=sc.nextDouble();
            }
        }
        int[] location=locateLargest(arr);
        System.out.println("The largest is located at ["+location[0]+", "+location[1]+"]");
        }
        public static int[] locateLargest(double[][] a){
            int []location=new int[2];
            double max=a[0][0];
            for(int i=0;i<a.length;i++){
                for(int j=0;j<a[i].length;j++){
                    if(a[i][j]>max){
                        max=a[i][j];
                        location[0]=i;
                        location[1]=j;
```

Provide Custom Input

Next

IV_CSE 207 L_CSE C J_Arraysstaticmethods

Pause Test | Submit Test | 97:29

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Arrays and ... 6

Q - 1 Report Error

Single File Programming Question Marks : 10 Negative Marks : 0

(Locate the largest element)
Write the following method that returns the location of the largest element in a two-dimensional array.
public static int[] locateLargest(double[][] a)
The return value is a one-dimensional array that contains two elements. These two elements indicate the row and column indices of the largest element in the two-dimensional array. Write a program that prompts the user to enter a two dimensional array and displays the location of the largest element in the array.

Input format

The first line represents the number of rows and number of columns

Next lines are the elements of the two dimensional array

Sample testcases

Input 1	Output 1
4 4 23.5 6 7 8.8 2.1 9 10 7 3 5 6 7 56 32.5 1 9	The largest is located at [3, 0]

Note :

The program will not be evaluated if "Submit Code" is not done atleast once

Fill your code here Java (11)

```
        int column=sc.nextInt();
        double [][]arr=new double[row][column];
        for(int i=0;i<row;i++){
            for(int j=0;j<column;j++){
                arr[i][j]=sc.nextDouble();
            }
        }
        int[] location=locateLargest(arr);
        System.out.println("The largest is located at ["+location[0]+", "+location[1]+"]");
        }
        public static int[] locateLargest(double[][] a){
            int []location=new int[2];
            double max=a[0][0];
            for(int i=0;i<a.length;i++){
                for(int j=0;j<a[i].length;j++){
                    if(a[i][j]>max){
                        max=a[i][j];
                        location[0]=i;
                        location[1]=j;
                    }
                }
            }
            return location;
        }
}
```

Provide Custom Input

Clear | Compile & Run | Submit Code

Next

IV_CSE 207 L_CSE C J_Arraysstaticmethods

Pause Test | Submit Test | 97:19

Test will be auto submitted in 210 minutes from the test start time or at 01-03-2023 11:01:00 PM whichever is earlier

Arrays and ... 6

Q - 2

Report Error

Single File Programming Question **Marks : 10 Negative Marks : 0**

(Pattern recognition: consecutive four equal numbers)
Write the following method that tests whether the array has four consecutive numbers with the same value.
public static boolean isConsecutiveFour(int[] values)
Write a test program that prompts the user to enter a series of integers and displays if the series contains four consecutive numbers with the same value. Your program should first prompt the user to enter the input size—i.e., the number of values in the series.

Input format

The first line represents the number of elements in the array.
The second line represents the elements of the array.

Output format

If the list contains the four consecutive numbers then display the message as "The list has consecutive four equal numbers" otherwise display the message as "The list does not have consecutive four equal numbers".

Sample testcases

Input 1	Output 1
6 3 5 5 5 5 6	The list has consecutive four equal numb

Input 2	Output 2

Whitelist

Set 1: public static boolean isConsecutiveFour

Fill your code here — Java (11)

```
// You are using Java
import java.util.*;
class ConsecutiveFour{
    public static boolean isConsecutiveFour(int[] values){
        for(int i=0;i<=values.length-4;i++){
            if(values[i]==values[i+1]&&values[i]==values[i+2]&&values[i]==values[i+3]){
                return true;
            }
        }
        return false;
    }
    public static void main(String[] args){
        Scanner sc=new Scanner(System.in);
        int size=sc.nextInt();
        int []values=new int[size];
        for(int i=0;i<size;i++){
            values[i]=sc.nextInt();
        }
        if(isConsecutiveFour(values)){
            System.out.println("The list has consecutive four equal numbers.");
        }
        else{
            System.out.println("The list does not have consecutive four equal numbers.");
        }
    }
}
```

Provide Custom Input

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Pause Test | Submit Test | 97:15

Test will be auto submitted in 210 minutes from the test start time or at 01-03-2023 11:01:00 PM whichever is earlier

Arrays and ... 6

Q - 3

Report Error

Single File Programming Question **Marks : 10 Negative Marks : 0**

(Count occurrence of numbers)
Write a program that reads the integers between 1 and 100 and counts the occurrences of each. Assume the input ends with 0.

Note that if a number occurs more than one time, the plural word "times" is used in the output.

Input format

Elements in the array separated with spaces till the user gives zero (0).

Sample testcases

Input 1	Output 1
2 9 10 89 32 76 21 0	2 occurs 1 time 9 occurs 1 time 10 occurs 1 time 21 occurs 1 time 32 occurs 1 time 76 occurs 1 time 89 occurs 1 time

Input 2	Output 2
32 9 8 32 9 10 0	8 occurs 1 time 9 occurs 2 times 10 occurs 1 time 32 occurs 2 times

Fill your code here — Java (11)

```
// You are using Java
import java.util.*;
 class occurrence{
    public static void main(String[] args){
        int []count=new int[100];
        Scanner sc=new Scanner(System.in);
        int number =sc.nextInt();
        while(number!=0){
            count[number-1]++;
            number=sc.nextInt();
            }
            for(int i=0;i<count.length;i++){
                if(count[i]>0){
                    System.out.printf("%d occurs %d time%s%n",i+1,count[i],count[i]>1?"s":"");
                }

            }
    }
}

```

Provide Custom Input

Clear | Compile & Run | Submit Code

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Pause Test | Submit Test | 97:09

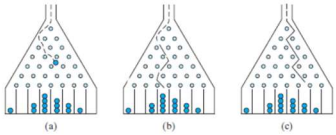
Test will be auto submitted in 210 minutes from the test start time or at 01-03-2023 11:01:00 PM whichever is earlier

Arrays and ... 6

Q - 4 Report Error

Single File Programming Question **Marks : 10 Negative Marks : 0**

(Game: bean machine) The bean machine, also known as a quincunx or the Galton box, is a device for statistics experiments named after English scientist Sir Francis Galton. It consists of an upright board with evenly spaced nails (or pegs) in a triangular form, as shown in the below Figure



Balls are dropped from the opening of the board. Every time a ball hits a nail, it has a 50% chance of falling to the left or to the right. The piles of balls are accumulated in the slots at the bottom of the board.
Write a program that simulates the bean machine. Your program should prompt the user to enter the number of the balls and the number of the slots in the machine. Simulate the falling of each ball by printing its path. For example, the path for the ball in Figure (b) is LLRRLLR and the path for the ball in Figure (c) is RLRRLRR. Display the final buildup of the balls in the slots in a histogram.

Sample testcases

Input 1	Output 1
5	Ball number 1 falls down path: [R, L, R,

Fill your code here — Java (11)

```
// You are using Java
import java.util.*;
class Main{
    public static void main(String args[]){
        Scanner sc=new Scanner(System.in);
        int b=sc.nextInt();
        int n=sc.nextInt();
        int []slots=new int[n];
        for(int i=0;i<=b;i++){
            char []path=simulateRandomPath(n);
            slots=simulateDrop(path,slots,i);
        }
        System.out.println("Where 1 is equal to a ball in the slot, the slotsafter all the bal
        System.out.println(Arrays.toString(slots));

    }
    public static int[] simulateDrop(char []path,int []slots,int ballnum){
        int result=0;
        System.out.println("Ball number "+ballnum+" falls down path: "+Arrays.toString(path));
        for(char c:path){
            if(c=='R'){
                result++;
            }
        }
        System.out.println("And lands in slot number: "+result);
```

Provide Custom Input

Clear | Compile & Run | Submit Code

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IV_CSE 207 L_CSE C J_Arraysstaticmethods

Pause Test | Submit Test | 97:07

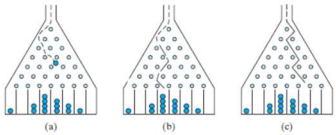
Test will be auto submitted in 210 minutes from the test start time or at 01-03-2023 11:01:00 PM whichever is earlier

Arrays and ... 6

Q - 4 Report Error

Single File Programming Question **Marks : 10 Negative Marks : 0**

(Game: bean machine) The bean machine, also known as a quincunx or the Galton box, is a device for statistics experiments named after English scientist Sir Francis Galton. It consists of an upright board with evenly spaced nails (or pegs) in a triangular form, as shown in the below Figure



Balls are dropped from the opening of the board. Every time a ball hits a nail, it has a 50% chance of falling to the left or to the right. The piles of balls are accumulated in the slots at the bottom of the board.
Write a program that simulates the bean machine. Your program should prompt the user to enter the number of the balls and the number of the slots in the machine. Simulate the falling of each ball by printing its path. For example, the path for the ball in Figure (b) is LLRRLLR and the path for the ball in Figure (c) is RLRRLRR. Display the final buildup of the balls in the slots in a histogram.

Sample testcases

Input 1	Output 1
5	Ball number 1 falls down path: [R, L, R,

Fill your code here — Java (11)

```
        System.out.println("Where 1 is equal to a ball in the slot, the slotsafter all the bal
        System.out.println(Arrays.toString(slots));

    }
    public static int[] simulateDrop(char []path,int []slots,int ballnum){
        int result=0;
        System.out.println("Ball number "+ballnum+" falls down path: "+Arrays.toString(path));
        for(char c:path){
            if(c=='R'){
                result++;
            }
        }
        System.out.println("And lands in slot number: "+result);
        slots[result-1]+=1;
        return slots;
    }
    private static char []simulateRandomPath(int numslots){
        char []result=new char[numslots];
        for(int i=0;i<result.length;i++){
            int random=(int)(Math.random()*2);
            result[i]=(random==0)?'R':'L';
        }
        return result;
    }
}
```

Provide Custom Input

Clear | Compile & Run | Submit Code

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IV_CSE 207 L_CSE C J_Arraysstaticmethods

Pause Test | Submit Test | 97:03

Test will be auto submitted in 210 minutes from the test start time or at 01-03-2023 11:01:00 PM whichever is earlier

Arrays and ... 6

Q - 5

Report Error

Single File Programming Question **Marks : 10 Negative Marks : 0**

Write a method that sums all the numbers in the major diagonal in an n * n matrix of double values using the following
header:
public static double sumMajorDiagonal(double[][] m)
Write a program that reads a 4-by-4 matrix and displays the sum of all its elements on the major diagonal.

Sample testcases

Input 1	Output 1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	The sum of the elements in the major dia

Input 2	Output 2
1.5 6 7 8 3 4.5 5.5 7.8 2 10 16 18 9.8 7.8 1.2 4.5	The sum of the elements in the major dia

Note :

The program will not be evaluated if "Submit Code" is not done atleast once

Extra spaces and new line characters in the program output will also result in the testcase failing

Whitelist

Set 1: public static double sumMajorDiagonal

Fill your code here — Java (11)

```java
// You are using Java
import java.util.*;
class Main{
    public static double sumMajorDiagonal;
    public static void main(String[] args){
        Scanner sc=new Scanner(System.in);
        double arr[][]=new double[4][4];
        for(int i=0;i<4;i++){
            for(int j=0;j<4;j++){
                arr[i][j]=sc.nextDouble();
            }

        }
        double n=arr[0][0]+arr[1][1]+arr[2][2]+arr[3][3];
        System.out.println("The sum of the elements in the major diagonal is: "+n);
    }
}
```

Provide Custom Input

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IV_CSE 207 L_CSE C J_Arraysstaticmethods

Pause Test | Submit Test | 96:59

Test will be auto submitted in 210 minutes from the test start time or at 01-03-2023 11:01:00 PM whichever is earlier

Arrays and ... 6

Q - 6

Report Error

Single File Programming Question **Marks : 10 Negative Marks : 0**

Write a program that reads number of students and student scores. Find the best score from the given scores, and then assigns grades based on the following scheme:
* Grade is A if score is >= best - 10
* Grade is B if score is >= best - 20;
* Grade is C if score is >= best - 30;
* Grade is D if score is >= best - 40;
* Grade is F otherwise.
The program prompts the user to enter the total number of students, then prompts the user to enter all of the scores, and concludes by displaying the grades.

Input format

The first line represents the number of students.
The second line represents the scores separated with spaces.

Output format

Student grades

Code constraints

Define a method findBestGrade(int[] grades) to returns the best score.
Define a method printLetterGrades(int[] grades, int bestGrade) to displays the output.

Fill your code here — Java (11)

```java
// You are using Java
import java.util.*;
class Main{
    public static int max(int []arr){
        int max=arr[0];
        for(int i=0;i<arr.length;i++){
            if(arr[i]>max)
            max=arr[i];
        }
        return max;
    }
    public static void main(String[] args){
        Scanner sc=new Scanner(System.in);
        int n=sc.nextInt();
        int []arr=new int[n];
        for(int i=0;i<n;i++){
            arr[i]=sc.nextInt();
        }
        int best=max(arr);
        for(int i=0;i<n;i++){
            if(arr[i]>=best-10)
            System.out.println("Student "+i+" score is "+arr[i]+" and grade is A");
            else if(arr[i]>=best-20)
            System.out.println("Student "+i+" score is "+arr[i]+" and grade is B");
            else if(arr[i]>=best-30)
```

Provide Custom Input

Clear | Compile & Run | Submit Code

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IV_CSE 207 L_CSE C J_Arraysstaticmethods

Pause Test | Submit Test | 96:57

Test will be auto submitted in 210 minutes from the test start time or at 01-03-2023 11:01:00 PM whichever is earlier

Arrays and ... 6

Q - 6

Report Error

Single File Programming Question **Marks : 10 Negative Marks : 0**

Write a program that reads number of students and student scores. Find the best score from the given scores, and then assigns grades based on the following scheme:

* Grade is A if score is >= best - 10
* Grade is B if score is >= best - 20;
* Grade is C if score is >= best - 30;
* Grade is D if score is >= best - 40;
* Grade is F otherwise.

The program prompts the user to enter the total number of students, then prompts the user to enter all of the scores, and concludes by displaying the grades.

Input format

The first line represents the number of students.
The second line represents the scores separated with spaces.

Output format

Student grades

Code constraints

Define a method findBestGrade(int[] grades) to returns the best score.
Define a method printLetterGrades(int[] grades, int bestGrade) to displays the output.

Fill your code here

Java (11)

```
        return max;
    }
    public static void main(String[] args){
        Scanner sc=new Scanner(System.in);
        int n=sc.nextInt();
        int []arr=new int[n];
        for(int i=0;i<n;i++){
            arr[i]=sc.nextInt();
        }
        int best=max(arr);
        for(int i=0;i<n;i++){
            if(arr[i]>=best-10)
            System.out.println("Student "+i+" score is "+arr[i]+" and grade is A");
            else if(arr[i]>=best-20)
            System.out.println("Student "+i+" score is "+arr[i]+" and grade is B");
            else if(arr[i]>=best-30)
            System.out.println("Student "+i+" score is "+arr[i]+" and grade is C");
            else if(arr[i]>=best-40)
            System.out.println("Student "+i+" score is "+arr[i]+" and grade is D");

            else
            System.out.println("Student "+i+" score is "+arr[i]+" and grade is F");

        }
    }
}
```

Provide Custom Input

Clear | Compile & Run | Submit Code

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