

REG NO	:	19BCS0012
NAME	:	NITHISH G
COURSE CODE	:	CSC3001
COURSE	:	JAVA PROGRAMMING
DATE	:	10.04.2021

1. Addison High School is holding a fundraiser. The freshmen, sophomores, juniors, and seniors hold a competition to see which class contributes the most money. Write a program that allows you to enter two numbers for each contribution as it comes in—the class of the contributor (1, 2, 3, or 4), and the amount contributed in dollars. For example, perhaps a junior contributes \$20. The user would enter a 3 and a 20. The program continues to accept data until the user types 999 for the contributor's class. At that point, data entry is completed, so display the four class totals as well as the number of the class (1, 2, 3, or 4) that contributed the most.

### Source Code:

```
import java.util.Scanner;

public class fundraiser {

    protected void contribution()
    {
        int contribution,Class=0,max_contribution=0,mc=0,i;
        int []fund = new int[4];

        String[] class_name = { " Freshmen","Sophomores","juniors","seniors"};
        for(i=0;i<4;i++){ fund[i]=0;}
        Scanner obj = new Scanner(System.in);

        while(Class!=999)
        {
            System.out.println("\n\t\t Class");
            System.out.println("\t\t -----");
            System.out.println(" 1.freshmen 2.sophomores 3.juniors 4.seniors\n");
            System.out.print(" Enter The Class   : ");
            Class = obj.nextInt();

            if(Class!=999 && Class<5 && Class >0)
            {
                System.out.print(" Contribution Amount$ : ");
                contribution = obj.nextInt();
                fund[(Class-1)] +=contribution;
            }
        }
    }
}
```

```
if(fund[(Class-1)]>max_contribution)
```

```
{
    max_contribution = fund[(Class-1)];
    mc=(Class-1);
}
```

```
}
```

```
else if (Class==999)
```

```
{
```

```
    System.out.println("\n\tThe maximum fund collected class");
```

```
    System.out.println("\t-----");
```

```
    System.out.println("\t\t"+class_name[mc]+" : "+fund[mc]+"$\n");
```

```
    System.out.println("\n\tThe class and the collected funds");
```

```
    System.out.print("\t-----");
```

```
    System.out.println("\n 1.freshmen  2.sophomores  3.juniors  4.seniors");
```

```
    System.out.print("    $" +fund[0]+" \t" + " $" +fund[1]+" \t    $" +fund[2]+" \t
```

```
 $" +fund[3]);
```

```
    System.out.println("\n\n\t\tFour class totals");
```

```
    System.out.println("\t\t-----");
```

```
    System.out.println("\t\t\t"+(fund[0]+fund[1]+fund[2]+fund[3])+"$");
```

```
}
```

```
else {
```

```
    System.out.println("Invalide Input");
```

```
}
```

```
}
```

```
}
```

```
public static void main(String[] NITHISH) {
```

```
    System.out.print("\t    Name   : Nithish G \n");
```

```
    System.out.print("\t    Reg No.: 19BCS0012\n");
```

```
    System.out.print("\t    Date   : 09.04.2021\n");
```

```
    System.out.print("\t-----");
```

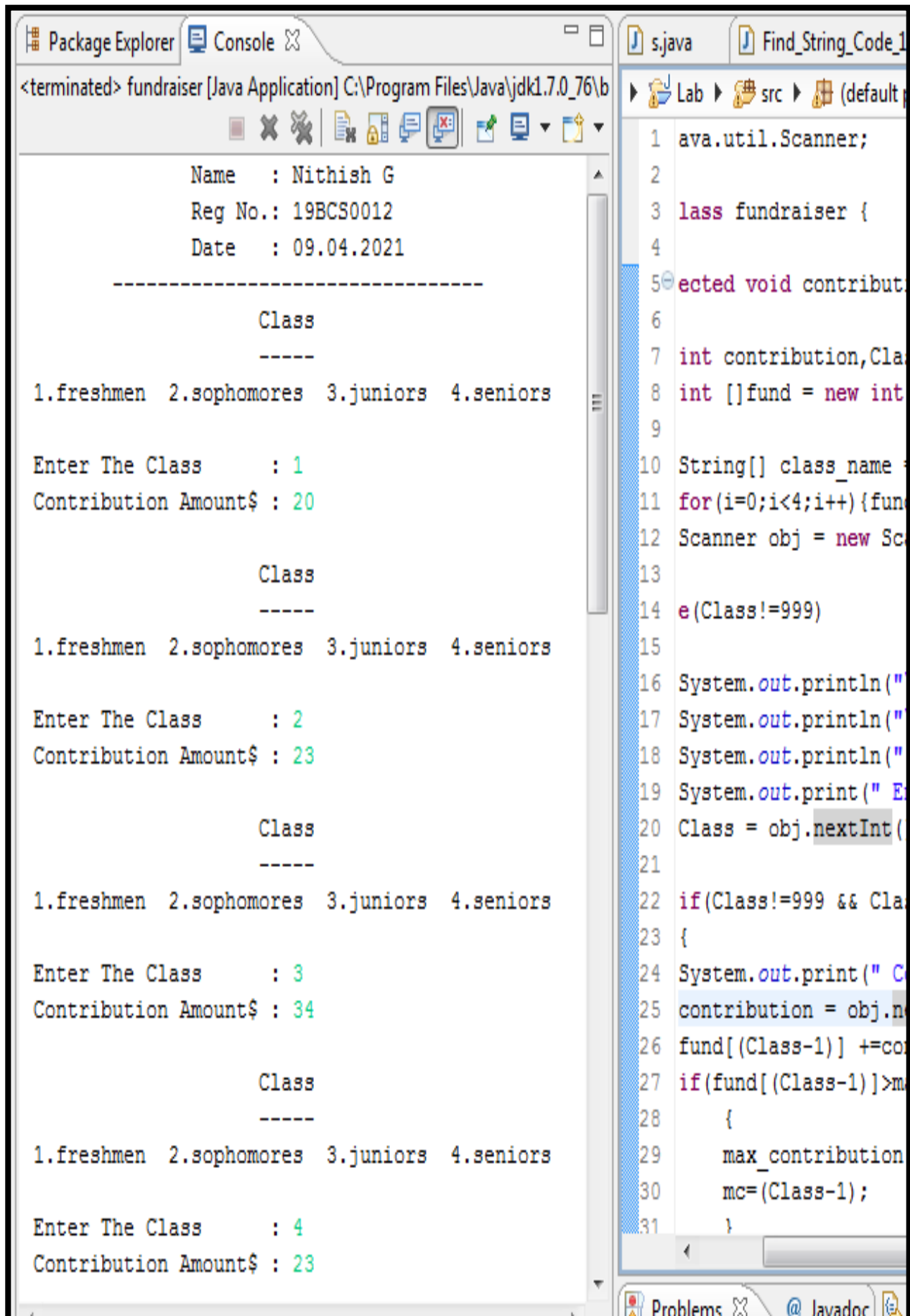
```
    fundraiser obj = new fundraiser();
```

```
    obj.contribution();
```

```
}
```

```
}
```

## Output



The screenshot displays an IDE with two main windows. The left window, titled 'fundraiser [Java Application]', shows the program's output. The right window, titled 'Find\_String\_Code\_1', shows the source code for the 'fundraiser' class.

**Output Window:**

```
<terminated> fundraiser [Java Application] C:\Program Files\Java\jdk1.7.0_76\bin
Name    : Nithish G
Reg No.: 19BCS0012
Date    : 09.04.2021
-----
Class
-----
1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class    : 1
Contribution Amount$ : 20

Class
-----
1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class    : 2
Contribution Amount$ : 23

Class
-----
1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class    : 3
Contribution Amount$ : 34

Class
-----
1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class    : 4
Contribution Amount$ : 23
```

**Source Code Window:**

```
s.java Find_String_Code_1
Lab src (default)
1  java.util.Scanner;
2
3  class fundraiser {
4
5  selected void contribute
6
7  int contribution, Class
8  int []fund = new int[
9
10 String[] class_name =
11 for(i=0;i<4;i++){fun
12 Scanner obj = new Sc
13
14 e(Class!=999)
15
16 System.out.println("
17 System.out.println("
18 System.out.println("
19 System.out.print(" E
20 Class = obj.nextInt(
21
22 if(Class!=999 && Cla
23 {
24 System.out.print(" C
25 contribution = obj.n
26 fund[(Class-1)] +=co
27 if(fund[(Class-1)]>m
28 {
29 max_contribution
30 mc=(Class-1);
31 }
```

Package Explorer Console X

<terminated> fundraiser [Java Application] C:\Program Files\Java\jdk1.7.0\_76\bin

Enter The Class : 4  
Contribution Amount\$ : 23

Class  
-----  
1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class : 1  
Contribution Amount\$ : 24

Class  
-----  
1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class : 2  
Contribution Amount\$ : 53

Class  
-----  
1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class : 3  
Contribution Amount\$ : 45

Class  
-----  
1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class : 4  
Contribution Amount\$ : 23

Class

s.java Find\_String

Lab src

```
1  java.util.Scanner
2
3  class fundraiser
4
5  selected void contribute
6
7  int contribution
8  int []fund = new int[4]
9
10 String[] classnames = {"freshmen", "sophomores", "juniors", "seniors"}
11 for(i=0;i<4;i++)
12 Scanner obj = new Scanner(System.in);
13
14 while(true)
15 {
16     System.out.println("Enter the class number (1-4):");
17     System.out.println("1.freshmen 2.sophomores 3.juniors 4.seniors");
18     System.out.println("Enter the contribution amount:");
19     System.out.println("Contribution Amount$ : ");
20     Class = obj.nextInt();
21
22     if(Class!=999)
23     {
24         System.out.println("Contribution Amount$ : ");
25         contribution = obj.nextInt();
26         fund[(Class-1)] = contribution;
27         if(fund[(Class-1)] > max_contribution)
28         {
29             max_contribution = fund[(Class-1)];
30             mc = (Class-1);
31         }
32     }
33 }
```

Problems @ Java

Package Explorer Console X  
<terminated> fundraiser [Java Application] C:\Program Files\Java\jdk1.7.0\_76\bin

1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class : 3  
Contribution Amount\$ : 45

Class  
-----

1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class : 4  
Contribution Amount\$ : 23

Class  
-----

1.freshmen 2.sophomores 3.juniors 4.seniors

Enter The Class : 999

The maximum fund collected class

-----  
juniors : 79\$

The class and the collected funds

-----  
1.freshmen 2.sophomores 3.juniors 4.seniors  
\$44 \$76 \$79 \$46

Four class totals

-----  
245\$

s.java Find\_String\_Co

```
1  java.util.Scanner;  
2  
3  class fundraiser {  
4  
5      protected void contri  
6  
7      int contribution,  
8      int []fund = new  
9  
10     String[] class_na  
11     for(i=0;i<4;i++){  
12     Scanner obj = new  
13  
14     e(Class!=999)  
15  
16     System.out.printl  
17     System.out.printl  
18     System.out.printl  
19     System.out.print(  
20     Class = obj.nextI  
21  
22     if(Class!=999 &&  
23     {  
24     System.out.print(  
25     contribution = ob  
26     fund[(Class-1)] +  
27     if(fund[(Class-1)  
28     {  
29     max_contribut  
30     mc=(Class-1);  
31     }
```

Problems X @ Javadoc

2. Write a function void split (int array[], int pivot) to partition the given array into two parts: one with all elements whose values are  $\leq$  pivot and the other one with all elements whose values are  $>$  pivot. The array should be partitioned in place. For example, if the array is

13 -42 8 35 -7 46 28 -19

and the pivot given is 10, then the function should turn the array above into  
-19 -42 8 -7 35 46 28 13

Within which all elements before pivot are  $\leq$  10 and all elements after pivot are  $>$  10. Write a main function to test your function.

### Source Code:

```
import java.util.Scanner;
```

```
public class partition_the_given_array {
```

```
    static void split (int array[], int pivot)
    {
```

```
        int n = array.length;
```

```
        int i,j = 0, temp = 0;
```

```
        System.out.println("\n          Before Partition");
```

```
        System.out.print("          -----\n");
```

```
        System.out.print("\t ");
```

```
        for(i=0;i<n;i++) {          System.out.print(array[i]+", ");          }
```

```
        for(i=0;i<n;i++)
```

```
        {
```

```
            for(j=0;j<n;j++)
```

```
            {
```

```
                if(array[j]>pivot && j!=(n-1))
```

```
                {
```

```
                    temp = array[j];
```

```
                    array[j]=array[j+1];
```

```
                    array[j+1]=temp;
```

```
                }
```

```
            }
```

```

    }
    System.out.println("\n\n    After Partition, Pivot value : "+pivot+"\n");
    System.out.print("    ----- \n");
    System.out.print("\t");
    for(i=0;i<n;i++)    {                System.out.print(array[i]+" ");                }

}

public static void main(String[] NITHISH) {

    System.out.print("\t    Name   : Nithish G \n");
    System.out.print("\t    Reg No.: 19BCS0012\n");
    System.out.print("\t    Date   : 10.04.2021\n");
    System.out.print("\t----- \n");
    Scanner obj = new Scanner (System.in);

    int pivot =0 ;

    System.out.print(" Enter the Size of Array : ");

    int n = obj.nextInt();

    int[] arr = new int[n];

    System.out.println(" Enter the Array Elements");

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

        System.out.print(" "+(i+1)+". ");
        arr[i]=obj.nextInt();
    }

    System.out.print(" Enter the Pivot value : ");
    pivot = obj.nextInt();

    split(arr,pivot);

}

}

```

## Output

The screenshot displays a Java IDE with two main windows. The left window, titled 'Console', shows the execution output of a Java application. The right window, titled 's.java', shows the source code of the application.

**Console Output:**

```
<terminated> partition_the_given_array [Java Application] C:\Program Files\
Name    : Nithish G
Reg No.: 19BCS0012
Date    : 10.04.2021
-----
Enter the Size of Array : 8
Enter the Array Elements
1. 82
2. 34
3. -2
4. 42
5. -15
6. -94
7. 22
8. 26
Enter the Pivot value : 20

        Before Partition
        -----
        82, 34, -2, 42, -15, -94, 22, 26,

After Partition, Pivot value : 20

-----
-2, -15, -94, 22, 26, 82, 34, 42,
```

**Source Code (s.java):**

```
34 System.out.print("\t
35 System.out.print("\t
36 System.out.print("\t
37 System.out.print("\t
38 Scanner obj = new Sc
39
40 int pivot =0 ;
41 System.out.print(" E
42 int n = obj.nextInt(
43 int[] arr = new int[
44 System.out.println("
45 for(int i = 0 ;i < n
46 {
47     System.out.print
48     arr[i]=obj.nextI
49 }
50
51 System.out.print(" E
52 pivot = obj.nextInt
53
54 split(arr,pivot);
55
56
57
58
```

-----THANK YOU! -----