09/10/2020

Extra / Practice Programs

1) Sum of odd and even indices of an array

```
import java.util.Scanner;
class evenodd{
    public static void main (String args[])
    { int arr[] = new int[10];
      int even=0, odd=0, n,i;
      Scanner in = new Scanner(System.in
      System.out.println("Enter no. of elements");
      n = in.nextInt();
      System.out.print("Enter elements of array");
      for(i=0; i<n; i++)
      { arr[i] = in.nextint();
        if(i%2==0) even += arr[i];
        else odd += arr[i];
      }
      System.out.println("Even index positions sum:"
                         + even);
      System.out.println("Odd index positions sum:"
                         + odd);
    }
}
```

Output

```
Enter no. of elements: 5
Enter the elements of array:
7
2
6
9
4
Even index positions sum: 17
Odd index positions sum: 11
```

2) Find no. of positive numbers, negative numbers and zeros in an array

```
import java.util.Scanner;
class posnegzero {
  public static void main (String args[])
{ int arr[ ]=new int[10];
  int pos=0, neg=0, zero=0, n, i;
  Scanner in= new Scanner (System.in);
  System.out.println ("Enter no. of elements : ");
  n= in.nextInt();
  System.out.println ("Enter elements of array :");
  for (i=0; i<n; i++)
  { arr[i]= in.nextInt();
    if (arr[i]==0)    zero+=1;
    else if (arr[i]>0)    pos+=1;
    else    neg+=1;
  }
  System.out.println("No. of zeros in array: "+zero);
  System.out.println("No. of +ve no.s in array:"+ pos);
  System.out.println("No. of -ve no.s in array: "+neg);
  }
}
```

Output

```
Enter no. of elements : 5
Enter elements of array:
-7
 8
 3
-17
 6
No. of zeros in array: 1
No. of +ve nos in array : 2
No. of -ve no.s in array : 2
```

3) Bill discount based on given conditions

```
import java.util.Scanner;
class billing{
Public static void main( String args[])
{ int n,i,j,total=0;
 int bill[][] = new int [10][3];
 float discounted;
 Scanner in = new Scanner (System.in);
System.out.print(" Enter no. of items ");
 n=in.nextInt();
for( i=0; i<n; i++)
{ System.out.print (" Item No");
  bill[i][0] = in.nextInt();
  System.out.print(" Quantity ");
  bill[i][1] = in.nextInt();
  System.out.print("cost per item ");
  bill[i][2] = in.nextInt();
  total += (bill[i][1] * bill[i][2]);
}
if( total >= 10000)
     discounted = (float) (0.95 * total);
else if ( total >= 7500)
     discounted = (float) (0.97 * total);
else if (total >= 5000)
     discounted = (float (0.98 * total);
else
     discounted = total;
 System.out.println (" Total : "+ total);
 System.out.println (" Discounted total : "+ discounted
}
}
```

OUTPUT

```
Enter no. of items : 2
Item No : 1
Quantity : 1
Cost per item : 1000
Item No : 2
Quatity : 1
Cost per item : 1000
Total : 11,000
Discounted Total = 10450 : 0

Enter no. of items : 2
Item No : 1
Quantity : 1
Cost per Item : 8000
Item No : 2
Quantity : 2
Cost per Item : 500
Total : 9000
Discounted Total : 8730.0
```

4) Sort an array of elements into two arrays of even elements and odd elements

```
import java.util.Scanner;
class arrayabc {
{ public static void main (String args[])
 { int n, i, j=0, k=0;
   Scanner in = new Scanner (System.in)
   System.out.print("Enter elements ");
   for( i=0; i<n; i++)
 { A[i] = in.nextInt();
   if( A[i]%2==0)
   { c[j] = A[i];
     j++;
   }
   else
   { B[k] = A[i];
     k++;
   }
 }
 System.out.print ("A:");
 for (i=0; i<n; i++)
    System.out.print (A[i] + " ");
 System.out.println ();
 System.out.print ("B:" )
 for(i=0; i<k; i++)
    System.out.print ( B[i] + " ");
 System.out.println ();
 System.out.print ("C:");
 for( i=0; i<j; i++)
 { System.out.print (C[i] + " ");
   if (C[i]>max) max = C[i];
   if (C[i]<min) min = C[i];
   sum += C[i];
 }
```

```
        System.out.println();
    System.out.println("Minimum of C:"+min);
    System.out.println("Maximum of C:"+max);
    System.out.println("Sum of elements :"+sum);
    System.out.println("The average of elements
            of C :"+(sum+(k+1)));
    }
}
```

```
Enter no of elements : 7
Enter elements : 17
8
7
3
6
9
4
A:17 8 7 3 6 9 4
B:17 7 3 9
C:8 6 4
Minimum of C : 4
Maximum of C : 8
Sum of elements : 18
The average of elements of C : 6
```

Extra problem LAB 2

1) To define class player and its methods

```
class playerinfo{
String id, name;
int scores [] = new int [25];
int no_matches_played;
float avg;
playerinfo (String id, String name, int [] scores,
                    int no_matches_played)
{ this.id = id
  this.name = name;
  for (int i=0; i<scores.length; i++)
      this.scores[i] = scores [i];
  this.no_matches_played = no_matches_played;
}
void avg_score ()
{ float sum=0;
  for (int i=0; i<scores.length; i++)
      sum += scores [i];
  avg = sum / (float) no_matches_played;
  System.out.println (" the average score of "
          + name + " is " + avg);
}
void Display ()
{ System.out.println (" ID : " + id );
  System.out.println (" Name : " + name);
  System.out.println (" Matche Played : " + no_matches.
  System.out.println (" Average Score : " + avg);
}
}
```

```
class player{
public static void main (String [] args )
{ int score1[] = {3,5,7,3,5,6,2,9}
  int score2[] = {2,3,3,5,6,9,9,10}
  playerinfo p1 = new playerinfo ("q1", "qwe", score1, 8);
  playerinfo p2 = new playerinfo ("a1", "asd", score2, 8);
  p1.avg_score();
  p2.avg_score();
  System.out.println("Player with better average :")
  if(p1.avg>p2.avg)
    p1.display();
  else
    p2.display();
 }
}
```

Output

The average score of qwe is 5.0

The average score of asd is 5.875

Player with better average :

ID: a1

Name: asd

Matched Played : 8

Average Score : 5.875