**Assignment 3 - OOPS With JAVA**

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1.) Write a program to merge two arrays of integers by reading one number at a time from each array

until one of the array is exhausted, and then concatenating the remaining numbers.

public class Assignment2

{

public static void main(String[] args)

{

int i=0,j=0,k=0;

int a[] = {23,60,94,3,102};

int b[] = {42,16,74};

int n1 = a.length;

int n2 = b.length;

int c[]= new int[n1+n2];

while(i<n1 && j<n2)

{

c[k++]=a[i++];

c[k++]=b[j++];

}

while(i<n1)

{

c[k++]=a[i++];

}

while(j<n2)

{

c[k++]=b[j++];

}

System.out.println("After Merging array is:");

for(i=0;i<n1+n2;i++)

{

System.out.print(c[i]+ " ");

}

}

}

2.) Write a program which takes an array of integers and prints the running average of 3 consecutive

integers. In case the array has fewer than 3 integers, there should be no output.

class Test3

{

public static void main(String[] args)

{

int avg=0;

int a[] = {5,14,35,89,140};

int n = a.length;

//int c[] = new int[n];

int sum=0;

for (int i = 0; i + 1 <=n; i++)

{

sum = a[i] + a[i + 1] + a[i+2];

sum =sum/3;

System.out.print(sum + " ");

}

}

}

3.) Write a program which generates the series 1,4,27,16,125,36

import java.util.Scanner;

class Test3

{

public static void main(String[] args)

{

Scanner input = new Scanner(System.in);

System.out.println("Please enter limit up to you want series");

int num =input.nextInt();

int arr[]=new int[num];

int c=1;

for(int i=0;i<num;i++)

{

if(c%2==0)

{

arr[i]=c\*c;

c++;

}

else

{

arr[i] = c\*c\*c;

c++;

}

}

for(int i:arr)

{

System.out.print(i+" ");

}

}

}

4.)Given an array of integers, print whether the numbers are in ascending order or in descending

order or in random order without sorting

import java.util.Scanner;

class Test3

{

public static void main(String[] args)

{

int i;

int n,b=1,d=1;

Scanner sc= new Scanner(System.in);

n=sc.nextInt();

int a[] = new int[n];

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

{

a[i]=sc.nextInt();

}

i=0;

while ((b == 1 || d == 1) && i < n - 1)

{

if(a[i] < a[i+1])

d=0;

else if (a[i] > a[i+1])

b=0;

i++;

}

if(b==1)

{

System.out.println("Array is sorted in ascending order");

}

else if(d==1)

{

System.out.println("Array is sorted in descending order");

}

else

{

System.out.println("Array is in random order");

}

}

}

5.) 5.Write a function which accepts an floating point number and counts the number of decimal

places in the number without using a string.

import java.util.Scanner;

class Test3

{

public static void main(String[] args)

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter the any floting number");

double x =sc.nextDouble();

//sc.close();

int count=0;

do

{

x =x\*10;

count++ ;

}

while(x != (int)(x));

System.out.println("digit after decimal is:"+count);

}

}

6.) .Print the third-largest number in an array without sorting it

class Test3

{

public static int getThirdLargest(int[] a, int total)

{

int temp;

for (int i = 0; i < total; i++)

{

for (int j = i + 1; j < total; j++)

{

if (a[i] > a[j])

{

temp = a[i];

a[i] = a[j];

a[j] = temp;

}

}

}

return a[total-3];

}

public static void main(String args[])

{

int a[]={1,2,5,6,3,2};

int b[]={44,66,99,77,33,22,55};

System.out.println("Third Largest: "+getThirdLargest(a,6));

System.out.println("Third Largest: "+getThirdLargest(b,7));

}

}