Java Assignment-4

1. WAP to display all the arrays values multiple of 2.

import java.util.Scanner;

class Multiple\_Table

{

public static void main(String[] args)

{

int []arr = new int[10];

int i,j,n,m;

Scanner s = new Scanner(System.in);

System.out.println("Enter 1st Mutiple number:");

n=s.nextInt();

for( i=1; i <= 10; i++)

{

System.out.println(n+" \* "+i+" = "+n\*i);

}

System.out.println("Enter Second Multiple number:");

m=s.nextInt();

for( j=1; j <= 10; j++)

{

System.out.println(m+" \* "+j+" = "+m\*j);

}

}

}

Output:--

Enter 1st Mutiple number:

2

2 \* 1 = 2

2 \* 2 = 4

2 \* 3 = 6

2 \* 4 = 8

2 \* 5 = 10

2 \* 6 = 12

2 \* 7 = 14

2 \* 8 = 16

2 \* 9 = 18

2 \* 10 = 20

Enter Second Multiple number:

4

4 \* 1 = 4

4 \* 2 = 8

4 \* 3 = 12

4 \* 4 = 16

4 \* 5 = 20

4 \* 6 = 24

4 \* 7 = 28

4 \* 8 = 32

4 \* 9 = 36

4 \* 10 = 40

2.WAP to find the max and min in an array and 8. WAP to display the max and min in an array

public class Min\_Max

{

public static void main(String[] args)

{

int arr[] = {4,14,24,34,44};

int max = arr[0];

int min = arr[0];

for(int i = 1; i < arr.length; i++){

if(max < arr[i])

{

max = arr[i];

}

else if(min > arr[i])

{

min = arr[i];

}

}

System.out.println("Maximum number:" + max);

System.out.println("...................");

System.out.println("Minimum number :" + min);

}

}

Output:---

Maximum number:44

.................

Minimum number :4

3. WAP to reverse an array

import java.util.Scanner;

public class Reverse\_A

{

public static void main(String args[])

{

int size, i, j, temp;

int arr[] = new int[50];

Scanner s = new Scanner(System.in);

System.out.println("Enter Array Size : ");

size = s.nextInt();

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

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

{

arr[i] = s.nextInt();

}

j = i - 1;

i = 0;

while(i<j)

{

temp = arr[i];

arr[i] = arr[j];

arr[j] = temp;

i++;

j--;

}

System.out.println("Now the Reverse of Array is :");

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

{

System.out.println(arr[i]+ " ");

}

}

}

Output:---

Enter Array Size : 4

Enter Array Elements :

2

32

43

5

Now the Reverse of Array is :

5 43 32 2

4. WAP to display only the even numbers in a an array

import java.util.Scanner;

class Even\_N

{

public static void main(String args[])

{

int num,i;

System.out.println("Enter the Number:");

Scanner S=new Scanner(System.in);

num=S.nextInt();

System.out.println("Even Numbers are: ");

for (i = 1; i <= 2 \* num; i++)

{

if (i % 2 == 0)

System.out.println(i);

}

}

}

Output:--

Enter the Number:

5

Even Numbers are:

2

4

6

8

10

5. WAP to display only the odd numbers in an array

import java.util.Scanner;

class Odd\_N

{

public static void main(String args[])

{

int num,i;

System.out.println("Enter the Number:");

Scanner S=new Scanner(System.in);

num=S.nextInt();

System.out.println("Odd Numbers are: ");

for (i = 1; i <= 2 \* num; i++)

{

if (i % 2 == 1)

System.out.println(i);

}

}

}

Output:--

Enter the Number:

5

Odd Numbers are:

1

3

5

7

9

6. WAP to count the no of positive, negative and zero in an array

import java.util.Scanner;

public class Positive\_N

{

public static void main(String args[])

{

int pos=0, neg=0, z=0, i;

int arr[] = new int[10];

Scanner scan = new Scanner(System.in);

System.out.println("Enter Numbers : ");

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

arr[i] = scan.nextInt();

}

for(i=0; i<arr.length; i++)

{

if(arr[i] < 0)

{

neg++;

}

else if(arr[i] == 0)

{

z++;

}

else

{

pos++;

}

}

System.out.print( " Positive Numbers :"+pos);

System.out.print("\n Negative Numbers :"+ neg);

System.out.print("\n Zero :"+ z);

}

}

Output:--

Enter Numbers :

2

1

32

0

00

6

-6

-9

1

2

Positive Numbers :6

Negative Numbers :2

Zero :2

7. WAP to count the no of even and odd in an array

import java.util.Scanner;

class Even\_Odd

{

public static void main (String args[])

{

int even=0,odd=0;

Scanner scan=new Scanner(System.in);

System.out.println("Enter the array size :");

int size=scan.nextInt();

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

int arr[]=new int[size];

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

{

arr[i]=scan.nextInt();

}

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

{

if(arr[i]%2==0)

{

even++;

}

else

{

odd++;

}

}

System.out.println("Even numbers : "+even);

System.out.println("Odd numbers : "+odd);

}

}

Output:---

Enter the array size :

5

Enter the Elements :

1

2

3

6

5

Even numbers : 2

Odd numbers : 3

9. WAP to display the second highest number in an array

public class Largest

{

public static void main(String[] args)

{

int arr[] = { 14, 46, 47, 86, 92, 52, 48, 36, 66, 85 };

int largest = arr[0];

int secondLargest = arr[0];

System.out.println("The given array is:" );

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

{

System.out.println(arr[i]);

}

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

{

if (arr[i] > largest)

{

secondLargest = largest;

largest = arr[i];

}

else if (arr[i] > secondLargest)

{

secondLargest = arr[i];

}

}

System.out.println("Second largest number is:" + secondLargest);

}

}

Output:---

The given array is:

14

46

47

86

92

52

48

36

66

85

Second largest number is:86

10. WAP to perform sorting in an array

public class Sorting

{

public static void main(String[] args)

{

int [] arr = new int [] {5, 2, 8, 7, 1};

int temp = 0;

System.out.println("Elements of array: ");

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

{

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

}

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

{

for (int j = i+1; j < arr.length; j++)

{

if(arr[i] > arr[j]) {

temp = arr[i];

arr[i] = arr[j];

arr[j] = temp;

}

}

}

System.out.println("\n Ascending order: ");

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

System.out.println(arr[i] + " ");

}

}

}

Output:--

Elements of array:

5 2 8 7 1

Ascending order:

1

2

5

7

8

11. WAP to search an specific element in an array

import java.util.Scanner;

class Search

{

public static void main(String args[])

{

int counter, num, item, array[];

Scanner input = new Scanner(System.in);

System.out.println("Enter number of elements:");

num = input.nextInt();

array = new int[num];

System.out.println("Enter " + num + " integers");

for (counter = 0; counter < num; counter++)

array[counter] = input.nextInt();

System.out.println("Enter the search value:");

item = input.nextInt();

for (counter = 0; counter < num; counter++)

{

if (array[counter] == item)

{

System.out.println(item+" is present at location "+(counter+1));

break;

}

}

if (counter == num)

System.out.println(item + " doesn't exist in array.");

}

}

Output:--

Enter number of elements:

4

Enter 4 integers

6

9

4

3

Enter the search value:

4

4 is present at location 3

12. WAP to replace an existing element in an array on a specific position

13. WAP to add 2 arrays in 1 D.

14. WAP to find the sum of all the elements in an array

class Sum\_A

{

public static void main(String args[])

{

int[] array = {4,14,24,34,44};

int sum = 0;

for( int num : array)

{

sum = sum+num;

}

System.out.println("Sum of array elements is:"+sum);

}

}

Output:--

Sum of array elements is:120

15. WAP to count the total no of elements in an array

public class Count\_A

{

public static void main(String[] args)

{

int [] arr = new int [] {4,44,444,4444,44444,};

System.out.println("Elements are: " + arr.length);

}

}

Output:---

Elements are: 5

16. WAP to replace all non positive integers with zero in an array

17. WAP to perform matrix addition

public class Addition\_M

{

public static void main(String args[]){

int a[][]={{1,3,4},{2,4,3},{3,4,5}};

int b[][]={{1,3,4},{2,4,3},{1,2,4}};

int c[][]=new int[3][3];

for(int i=0;i<3;i++)

{

for(int j=0;j<3;j++)

{

c[i][j]=a[i][j]+b[i][j];

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

}

System.out.println();

}

}}

Output:--

Matrix is:

2 6 8

4 8 6

4 6 9

18. WAP to perform matrix multiplication

public class Matrix\_M

{

public static void main(String args[])

{

int a[][]={{1,4,1},{4,6,8},{3,5,7}};

int b[][]={{1,5,1},{2,2,2},{4,8,12}};

System.out.println("Matrix is:");

int c[][]=new int[3][3];

for(int i=0;i<3;i++)

{

for(int j=0;j<3;j++)

{

c[i][j]=0;

for(int k=0;k<3;k++)

{

c[i][j]+=a[i][k]\*b[k][j];

}

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

}

System.out.println();

}

}}

Output:--

Matrix is:

13 21 21

48 96 112

41 81 97

19. WAP to find the transpose of a matrix.

public class Matrix\_T

{

public static void main(String args[]){

int original[][]={{1,2,3},{4,5,6},{7,8,9}};

int transpose[][]=new int[3][3];

for(int i=0;i<3;i++){

for(int j=0;j<3;j++){

transpose[i][j]=original[j][i];

}

}

System.out.println("Before transpose:");

for(int i=0;i<3;i++){

for(int j=0;j<3;j++){

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

}

System.out.println();

}

System.out.println("After Transpose:");

for(int i=0;i<3;i++){

for(int j=0;j<3;j++){

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

}

System.out.println();//new line

}

}}

Output:----

Before transpose:

1 2 3

4 5 6

7 8 9

After Transpose:

1 4 7

2 5 8

3 6 9

20. WAP to do multiplication of arrays in 1D.