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srinu.qatrainer@gmail.com

Basic Java Programs

1. Write a Java Program Sum of First N Even Numbers

```
public class EvenNumbers {  
  
    public static void main(String[] args) {  
        int n, sum = 0;  
        System.out.println("Enter a Number");  
        Scanner s = new Scanner(System.in);  
        n = s.nextInt();  
        for(int i = 2; i <= n; i++)  
            if (i % 2 == 0) {  
                sum += i;  
            }  
        System.out.println("Sum of first even numbers between 1 to " + n + " is " + sum);  
    }  
}
```

2. Write a Java Program Factorial Number

```
public class Factorial {  
  
    public static void main(String args[]) {  
        int fact = 1;  
        int number;  
        System.out.println("Enter a Number");  
        Scanner s = new Scanner(System.in);  
        number = s.nextInt();  
  
        // It is the number to calculate factorial  
        for (int i = 1; i <= number; i++) {  
            fact = fact * i;  
        }  
        System.out.println("Factorial of " + number + " is: " + fact);  
    }  
}
```

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3. Write a Java Program given Number is Palindrome or Not

```
class PalindromeExample{
public static void main(String args[]){
    int r,sum=0,temp;
    int n=430;//It is the number variable to be checked for palindrome

    temp=n;
    while(n>0){
        r=n%10; //getting remainder
        sum=(sum*10)+r;
        n=n/10;
    }
    if(temp==sum)
        System.out.println("palindrome number ");
    else
        System.out.println("not palindrome");
    }
}
```

4. Write a Java Program Sum of First 'N' Numbers

```
class SumOfNum {
public static void main(String args[]) {
    int sum = 0;
    int n;
    System.out.println("Enter a Number");
    Scanner s = new Scanner(System.in);
    n = s.nextInt();
    for (int i = 1; i <= n; i++) {
        sum += i;
    }
    System.out.println("The Sum Of " + n + " Numbers are:" + sum);
}
}
```

5. Write a Java Program Sum of First 'N' Odd Numbers

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```
public class SumofOdd {

    public static void main(String args[]) {
        int n, sum = 0;
        System.out.println("Enter a Number");
        Scanner s = new Scanner(System.in);
        n = s.nextInt();

        for (int i = 1; i <= n; i++) {
            if (i % 2 != 0) {
                sum += i;
            }
        }
        System.out.println("The Sum Of N Odd Numbers are:" + sum);
    }
}
```

6. Write a Java Program Swapping Programs With Temporary Variable

```
class SwapNumbers
{
    public static void main(String args[])
    {
        int x, y, temp;
        System.out.println("Enter x and y");
        Scanner in = new Scanner(System.in);
        x = in.nextInt();
        y = in.nextInt();
        System.out.println("Before Swapping\nx = "+x+"\ny = "+y);
        temp = x;
        x = y;
        y = temp;
        System.out.println("After Swapping\nx = "+x+"\ny = "+y);
    }
}
```

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7. Write a Java Program Swapping Programs With Out Temporary Variable

```
public class SwapsTwo {  
  
    public static void main(String[] args) {  
  
        float first = 12.0f, second = 24.5f;  
  
        System.out.println("--Before swap--");  
        System.out.println("First number = " + first);  
        System.out.println("Second number = " + second);  
  
        first = first - second;  
        second = first + second;  
        first = second - first;  
  
        System.out.println("--After swap--");  
        System.out.println("First number = " + first);  
        System.out.println("Second number = " + second);  
    }  
}
```

8. Write a Java Program To Find Greatest Of Three Numbers

```
public class ThreeNum {  
  
    public static void main(String[] args) {  
        int a,b,c, big = 0;  
        System.out.println("Enter Three Numbers");  
        Scanner s = new Scanner(System.in);  
        a = s.nextInt();  
        b = s.nextInt();  
        c = s.nextInt();  
        if(a>=b && a>=c){  
            big= a;  
        }  
        else if(b>=a && b>=c){  
            big = b;  
        } else{
```

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```
        big = c;
    }
    System.out.println("Greater Number Is" +big);
}

}
```

9. Write a Java Program To Find Greatest Of Two Numbers

```
public class TwoNum {

    public static void main(String[] args) {
        int a,b, big = 0;
        System.out.println("Enter Two Numbers");
        Scanner s = new Scanner(System.in);
        a = s.nextInt();
        b = s.nextInt();
        if(a>b){
            big= a;
        }
        else{
            big =b;
        }
        System.out.println("Greater Number Is" +big);
    }

}
```

10. Write a Java Program To Print Multiplication Table for Any Given Number

```
public class Multiplication Table
```

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```
{
    public static void main(String[] args)
    {
        Scanner s = new Scanner(System.in);
        System.out.print("Enter number:");
        int n=s.nextInt();
        for(int i=1; i <= 10; i++)
        {
            System.out.println(n+" * "+i+" = "+n*i);
        }
    }
}
```

11.Wrire a Java Program Given Number is Prime or Not

```
class PrimeExample{
    public static void main(String args[]){
        int i,m=0,flag=0;
        int n=17;//it is the number to be checked
        m=n/2;
        for(i=2;i<=m;i++){
            if(n%i==0){
                System.out.println("Number is not prime");
                flag=1;
                break;
            }
        }
        if(flag==0)
            System.out.println("Number is prime");
    }
}
```

12.Wrire a Java Program To Find ArmStrong Number

```
class ArmstrongExample{
    public static void main(String[] args) {
        int c=0,a,temp;
```

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```
int n=153;//It is the number to check armstrong
temp=n;
while(n>0)
{
    a=n%10;
    n=n/10;
    c=c+(a*a*a);
}
if(temp==c)
    System.out.println("armstrong number");
else
    System.out.println("Not armstrong number");
}
```

13. Write a Java Program To find N th Fibonacci Series

```
class FibonacciExample1 {
    public static void main(String args[])
    {
        int n1=0,n2=1,n3,i,count=10;
        System.out.print(n1+" "+n2);//printing 0 and 1

        for(i=2;i<count;++i)//loop starts from 2 because 0 and 1 are already printed
        {
            n3=n1+n2;
            System.out.print(" "+n3);
            n1=n2;
            n2=n3;
        }

    }
}
```

14. Write a Java Program on Reverse a Number

```
class ReverseNumber
{
    public static void main(String args[])
    {
    }
```

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```
{
    int n, reverse = 0;

    System.out.println("Enter the number to reverse");
    Scanner in = new Scanner(System.in);
    n = in.nextInt();

    while( n != 0 )
    {
        reverse = reverse * 10;
        reverse = reverse + n%10;
        n = n/10;
    }

    System.out.println("Reverse of entered number is "+reverse);
}
}
```

15. Write a Java Program Given Number Is Perfect OR Not

```
public class PerfectNumberUsingFor {
    private static Scanner sc;

    public static void main(String[] args) {
        int i, Number, Sum = 0 ;
        sc = new Scanner(System.in);
        System.out.println("\n Please Enter any Number: ");
        Number = sc.nextInt();

        for(i = 1 ; i < Number ; i++) {
            if(Number % i == 0) {
                Sum = Sum + i;
            }
        }
        if (Sum == Number) {
            System.out.format("\n% d is a Perfect Number", Number);
        }
        else {
            System.out.format("\n% d is NOT a Perfect Number", Number);
        }
    }
}
```


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}

16. Write a Java Program To Print 1 to 10 Numbers With out Using Loop

```
class PrintDemo{

public static void recursivefun(int n)
{

    if(n <= 10) {

        System.out.println(n);
        recursivefun(n+1);  }

    }

public static void main(String args[])
{

    recursivefun(1);

    }

}
```

17. Write a Java Program Reverse a String Without Using String Function

```
public class ReverseString {

public static void main(String[] args) {

String str="Hello world";
```

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```
String revstring="";

for(int i=str.length()-1;i>=0;--i){
    revstring +=str.charAt(i);
}

System.out.println(revstring);
}
}
```

18. Write a Java Program To Print Numbers In Below Pattern

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
```

```
public class NumbersFormat {

    public static void main(String[] args) {

        int num=15;
        int temp=1;

        for (int i = 1; i <= num; i++)
        {

            for (int k = i; k <num; k++)
                System.out.print(" ");
            for (int j =1; j <= i; j++){

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

            }

            if(temp>15){
                break;
            }

            System.out.println();
        }
    }
}
```

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```
        if(temp>15){  
            break;  
        }  
    }  
}
```

19. Write a Java Program To Print Numbers In Below Pattern

```
1  
1 2  
1 2 3  
1 2 3 4  
1 2 3 4 5  
1 2 3 4 5 6  
1 2 3 4 5 6 7  
1 2 3 4 5 6 7 8  
1 2 3 4 5 6 7 8 9  
1 2 3 4 5 6 7 8 9 10
```

```
public class NumbersFormat  
{  
    public static void main(String[] args)  
    {  
        int r, c;  
        for (r = 1; r <= 10; r++)  
        {  
            for (c = 1; c <= r; c++)  
            {  
                System.out.print(c + " ");  
            }  
            System.out.println("");  
        }  
    }  
}
```

20. Write a Java Program To Print Numbers In Below Pattern

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1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7

1 2 3 4 5 6

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

```
public class NumbersFormat {  
    public static void main(String[] args) {
```

```
        int r, c;
```

```
        for (r = 1; r <= 10; r++) {
```

```
            for (c = 1; c <= 10-r; c++) {
```

```
                System.out.print(c + " ");
```

```
            }
```

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

```
        }
```

```
    }
```

```
}
```

21. Write a program to find the sum of the first 1000 prime numbers.

```
public class Main {
```

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

```
        int number = 2;
```

```
        int count = 0;
```

```
        long sum = 0;
```

```
        while(count < 1000){
```

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```
        if(isPrimeNumber(number)){
            sum += number;
            count++;
        }
        number++;
    }
    System.out.println(sum);
}

private static boolean isPrimeNumber(int number){

    for(int i=2; i<=number/2; i++){
        if(number % i == 0){
            return false;
        }
    }
    return true;
}
}
```

22. Write a program to Convert Binary to Decimal Numbers.

```
public class BinaryToDecimal {

    public int getDecimalFromBinary(int binary){

        int decimal = 0;
        int power = 0;
        while(true){
            if(binary == 0){
                break;
            }
        }
    }
}
```

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```
        } else {
            int tmp = binary%10;
            decimal += tmp*Math.pow(2, power);
            binary = binary/10;
            power++;
        }
    }
    return decimal;
}

public static void main(String a[]){
    BinaryToDecimal bd = new BinaryToDecimal();
    System.out.println("11 ==> "+bd.getDecimalFromBinary(11));
    System.out.println("110 ==> "+bd.getDecimalFromBinary(110));
    System.out.println("100110 ==> "+bd.getDecimalFromBinary(100110));
}
}
```

23.Java program to find missing number in an array

```
public class MissingNumberMain {

    public static void main(String[] args) {

        int[] arr1={7,5,6,1,4,2};

        System.out.println("Missing number from array arr1: "+missingNumber(arr1));

        int[] arr2={5,3,1,2};

        System.out.println("Missing number from array arr2: "+missingNumber(arr2));

    }

    public static int missingNumber(int[] arr)
```

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```
{  
    int n=arr.length+1;  
    int sum=n*(n+1)/2;  
    int restSum=0;  
    for (int i = 0; i < arr.length; i++) {  
        restSum+=arr[i];  
    }  
    int missingNumber=sum-restSum;  
    return missingNumber;  
}  
}
```

24.Java Program to find second largest number in array

```
public class FindSecondLargestMain {  
    public static void main(String args[])  
    {  
        int[] arr1={7,5,6,1,4,2};  
        int secondHighest=findSecondLargestNumberInTheArray(arr1);  
        System.out.println("Second largest element in the array : "+ secondHighest);  
    }  
    public static int findSecondLargestNumberInTheArray(int array[])  
    {  
        // Initialize these to the smallest value possible
```

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```
int highest = Integer.MIN_VALUE;

int secondHighest = Integer.MIN_VALUE;

// Loop over the array
for (int i = 0; i < array.length; i++) {

// If current element is greater than highest
if (array[i] > highest) {

// assign second highest element to highest element
secondHighest = highest;

// highest element to current element
highest = array[i];

} else if (array[i] > secondHighest)

// Just replace the second highest
secondHighest = array[i];

}

// After exiting the loop, secondHighest now represents the second
// largest value in the array
return secondHighest;

}

}
```

25.Find all substrings of a String in java

```
class SubstringsOfStringMain

{

public static void main(String args[])

{
```


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```
String str="abbc";

System.out.println("All substring of abbc are:");

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

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

        System.out.println(str.substring(i,j));

    }

}

}
```

26.How to check number is prime or not

```
public class PrimeNumberMain {

    public static void main(String[] args) {

        System.out.println("17 is prime number?: "+isPrime(17));

        System.out.println("2 is prime number?: "+isPrime(2));

        System.out.println("91 is prime number?: "+isPrime(91));

        System.out.println("29 is prime number?: "+isPrime(29));

        System.out.println("81 is prime number?: "+isPrime(81));

    }

    public static boolean isPrime(int number)

    {
```

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```
for (int i = 2; i <=Math.sqrt(number); i++) {  
  
    if(number%i==0)  
  
        return false;  
  
}  
  
return true;  
  
}  
  
}
```

27.Check If String is palindrome

```
public class StringFullLoopPalindrome {  
  
    public static void main(String[] args) {  
  
        Scanner scanner = new Scanner(System.in);  
  
        System.out.print("Enter string: ");  
  
        String str = scanner.nextLine();  
  
        String reverseStr = "";  
  
        for(int i = str.length() - 1; i >= 0; i--){  
  
            reverseStr = reverseStr + str.charAt(i);  
  
        }  
  
        if(str.equals(reverseStr)){
```

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```
System.out.println("String is palindrome");

} else {

System.out.println("String is not palindrome");

}

}

}
```

28.Java program to find number of words in String

```
class CountTheWords

{

    public static void main(String[] args)

    {

        String str="My Name is John";

String[] words = str.trim().split(" ");

System.out.println("Number of words in the string = "+words.length);

        System.out.println("Words are:");

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

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

        }

    }

}
```

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```
}
```

```
}
```

```
}
```

29. Java program to find square root of number

```
public class SquareRoot{

    public static void main(String args[]) {

        //Used to get input number for which square root to find
        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter number to find square root in Java : ");

        //getting input number from user to calculate square root
        double square = scanner.nextDouble();

        //getting square root of a number in Java
        double squareRoot = Math.sqrt(square);

        //printing number and its square root in Java
        System.out.printf("Square root of number: %f is : %f %n" , square, squareRoot);

    }

}
```

30. Find Second smallest number in java without sorting

```
class SecondSmallestNumber{
    int[] x = { 10,11,12,13,14,6,3,-1};
```

```
    int small=x[0];
```

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

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```
{
    if(x[i]<small)
    {
        small=x[i];
    }
}

int sec_Small=x[0];
for(int i=0;i<x.length;i++)
{
    if(x[i]<sec_Small && x[i]!=small)
    {
        sec_Small=x[i];
    }
}

System.out.println("Second Smallest Number: "sec_Small);

}
```

31)Remove Duplicate Element in Array using Temporary Array

```
public class RemoveDuplicateInArrayExample{
public static int removeDuplicateElements(int arr[], int n){
    if (n==0 || n==1){
        return n;
    }
    int[] temp = new int[n];
    int j = 0;
    for (int i=0; i<n-1; i++){
```

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```
        if (arr[i] != arr[i+1]){
            temp[j++] = arr[i];
        }
    }
    temp[j++] = arr[n-1];
    // Changing original array
    for (int i=0; i<j; i++){
        arr[i] = temp[i];
    }
    return j;
}
```

```
public static void main (String[] args) {
    int arr[] = { 10,20,20,30,30,40,50,50};
    int length = arr.length;
    length = removeDuplicateElements(arr, length);
    //printing array elements
    for (int i=0; i<length; i++)
        System.out.print(arr[i]+" ");
    }
}
```

32) Java Program to add two matrices

```
public class MatrixAdditionExample{
    public static void main(String args[]){
        //creating two matrices
        int a[][]={{ 1,3,4},{ 2,4,3},{ 3,4,5 }};
        int b[][]={{ 1,3,4},{ 2,4,3},{ 1,2,4 }};

        //creating another matrix to store the sum of two matrices
        int c[][]=new int[3][3]; //3 rows and 3 columns

        //adding and printing addition of 2 matrices
        for(int i=0;i<3;i++){
            for(int j=0;j<3;j++){
                c[i][j]=a[i][j]+b[i][j]; //use - for subtraction
            }
        }
    }
}
```

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```
System.out.print(c[i][j]+" ");  
}  
System.out.println();//new line  
}  
}}
```

33) Java Program to Check a Leap Year

```
public class LeapYear {  
  
    public static void main(String[] args) {  
  
        int year = 1900;  
        boolean leap = false;  
  
        if(year % 4 == 0)  
        {  
            if( year % 100 == 0)  
            {  
                // year is divisible by 400, hence the year is a leap year  
                if ( year % 400 == 0)  
                    leap = true;  
                else  
                    leap = false;  
            }  
            else  
                leap = true;  
        }  
        else  
            leap = false;  
  
        if(leap)  
            System.out.println(year + " is a leap year.");  
        else  
            System.out.println(year + " is not a leap year.");  
    }  
}
```

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```
}  
}
```

34) Display Uppercased A to Z using for loop

```
public class Characters {  
  
    public static void main(String[] args) {  
  
        char c;  
  
        for(c = 'A'; c <= 'Z'; ++c)  
            System.out.print(c + " ");  
    }  
}
```

35) java program for Join Two Lists

```
import java.util.ArrayList;  
import java.util.List;  
  
public class JoinLists {  
  
    public static void main(String[] args) {  
  
        List<String> list1 = new ArrayList<String>();  
        list1.add("a");  
  
        List<String> list2 = new ArrayList<String>();  
        list2.add("b");  
  
        List<String> joined = new ArrayList<String>();  
  
        joined.addAll(list1);  
        joined.addAll(list2);  
  
        System.out.println("list1: " + list1);  
        System.out.println("list2: " + list2);  
        System.out.println("joined: " + joined);  
  
    }  
}
```


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36) Program to check whether the given number is positive or negative

```
public class Demo
{
    public static void main(String[] args)
    {
        int number=109;
        if(number > 0)
        {
            System.out.println(number+" is a positive number");
        }
        else if(number < 0)
        {
            System.out.println(number+" is a negative number");
        }
        else
        {
            System.out.println(number+" is neither positive nor negative");
        }
    }
}
```

37) Program to reverse the array

```
import java.util.Scanner;
public class Example
{
    public static void main(String args[])
    {
        int counter, i=0, j=0, temp;
        int number[] = new int[100];
        Scanner scanner = new Scanner(System.in);
        System.out.print("How many elements you want to enter: ");
        counter = scanner.nextInt();
        for(i=0; i<counter; i++)
        {
            System.out.print("Enter Array Element" +(i+1)+ ": ");
            number[i] = scanner.nextInt();
        }
        j = i - 1;
        i = 0;
        scanner.close();
    }
}
```

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```
while(i<j)
{
    temp = number[i];
    number[i] = number[j];
    number[j] = temp;
    i++;
    j--;
}

System.out.print("Reversed array: ");
for(i=0; i<counter; i++)
{
    System.out.print(number[i]+ " ");
}
}
```

38) How to open Notepad using Java program

```
import java.util.*;
import java.io.*;

class Notepad {
    public static void main(String[] args) {
        Runtime rs = Runtime.getRuntime();

        try {
            rs.exec("notepad");
        }
        catch (IOException e) {
            System.out.println(e);
        }
    }
}
```

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39) Java program to compare two strings

```
import java.util.Scanner;

class CompareStrings
{
    public static void main(String args[])
    {
        String s1, s2;
        Scanner in = new Scanner(System.in);

        System.out.println("Enter the first string");
        s1 = in.nextLine();

        System.out.println("Enter the second string");
        s2 = in.nextLine();

        if (s1.compareTo(s2) > 0)
            System.out.println("The first string is greater than the second.");
        else if (s1.compareTo(s2) < 0)
            System.out.println("The first string is smaller than the second.");
        else
            System.out.println("Both the strings are equal.");
    }
}
```

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```
}  
}
```

40) Java Programming Code to Convert Lowercase Character to Uppercase

```
import java.util.Scanner;  
public class JavaProgram  
{  
    public static void main(String[] input)  
    {  
        char ch;  
        int temp;  
        Scanner scan = new Scanner(System.in);  
  
        System.out.print("Enter a Character in Lowercase : ");  
        ch = scan.next().charAt(0);  
  
        temp = (int) ch;  
        temp = temp - 32;  
        ch = (char) temp;  
  
        System.out.print("Equivalent Character in Uppercase = " +ch);  
    }  
}
```