List of Java Programs

- 1. Program1 WAP to display the List of even numbers
- 2. Program2 Factorial of a number
- 3. Program3 Compare Two Numbers using else-if
- 4. Program4 Determine If Year Is Leap Year
- 5. Program5 Fibonacci Series
- 6. Program6 Palindrome Number
- 7. Program7- Generate prime numbers between 1 & given number
- 8. Program8- Pyramid of stars using nested for loops
- 9. Program9 Reversed pyramid using for loops & decrement operator.
- 10. Program10 Nested Switch
- 11. Program11 Calculate Circle Area using radius
- 12. **Program12 Factorial of a number using** recursion
- 13. Program13 Pyramid of numbers using for loops
- 14. Program14 To Find Maximum of Two Numbers.
- 15. Program15 To Find Minimum of Two Numbers using conditional operator
- 16. Program 16 Write a program that will read a float type value from the keyboard and print the following output.
 - ->Small Integer not less than the number.
 - ->Given Number.
 - ->Largest Integer not greater than the number.
- 17. Program 17 Write a program to generate 5 Random nos. between 1 to 100, and it should not follow with decimal point.
- 18. Program 18 Write a program to display a greet message according to Marks obtained by student
- 19. Program 19 Write a program to find SUM AND PRODUCT of a given Digit.
- 20. Program 20 Write a program to find sum of all integers greater than 100 and less than 200 that are divisible by 7

- 21. Program 21 Write a program to concatenate string using for Loop
- 22. Program 22 Program to Display Multiplication Table
- 23. Program 23 Write a program to Swap the values
- 24. Program 24 Write a program to convert given no. of days into months and days.(Assume that each month is of 30 days)
- 25. Program 25 Write a program to Display Invert Triangle using while loop.
- 26. Program 26 Write a program to find whether given no. is Armstrong or not.
- 27. Program 27 switch case demo
- 28. Program 28 Write a program to generate Harmonic Series.
- 29. Program 29 Write a program to find average of consecutive N Odd numbers and even numbers.
- 30. Program 30 Display Triangle as follow: (using for loops)

1

2 3

456

7 8 9 10 ... N */

Programs to work out

- 1. WAP to display a color name depending on color value using switch.
- 2. Accepting single character, int, float, string and double value from the keyboard.
- 3. To grade the students using switch and if-else.
- 4. To compute the power of 2 using for loop
- 5. To find the sum of the digits of a given integer number.

6. Given the month, identify the season using switch.			

```
Program1 - List of even numbers
     List Even Numbers Java Example
     This List Even Numbers Java Example shows how to find and list even
     numbers between 1 and any given number.
  public class ListEvenNumbers {
     public static void main(String[] args) {
            //define limit
            int limit = 50;
            System.out.println("Printing Even numbers between 1 and " +
limit);
            for(int i=1; i <= limit; i++) {
                  // if the number is divisible by 2 then it is even
                  if( i % 2 == 0) {
                       System.out.print(i + " ");
           }
      }
  }
  /*
  Output of List Even Numbers Java Example would be
  Printing Even numbers between 1 and 50
  2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
  */
Program2 - Factorial of a number
     This program shows how to calculate
      Factorial of a number.
  public class NumberFactorial {
     public static void main(String[] args) {
            int number = 5;
            * Factorial of any number is! n.
            * For example, factorial of 4 is 4*3*2*1.
            int factorial = number;
            for (int i = (number - 1); i > 1; i--)
```

Program3 - Compare Two Numbers using else-if

```
/*
   Compare Two Numbers Java Example
   This Compare Two Numbers Java Example shows how to compare two numbers
   using if else if statements.
*/
public class CompareTwoNumbers {
   public static void main(String[] args) {
         //declare two numbers to compare
         int num1 = 324;
         int num2 = 234;
         if(num1 > num2) {
               System.out.println(num1 + " is greater than " + num2);
         }
         else if(num1 < num2){</pre>
```

Program4 - Determine If Year Is Leap Year

```
/*
   Determine If Year Is Leap Year Java Example
   This Determine If Year Is Leap Year Java Example shows how to
   determine whether the given year is leap year or not.
*/

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

```
//year we want to check
           int year = 2004;
           //if year is divisible by 4, it is a leap year
            if(year % 400 == 0) || ((year % 4 == 0) && (year % 100 != 0))
                  System.out.println("Year " + year + " is a leap year");
           else
                  System.out.println("Year " + year + " is not a leap year");
      }
   }
   /*
  Output of the example would be
  Year 2004 is a leap year
   */
Program5 - Fibonacci Series
```

```
/* Fibonacci Series Java Example
    This Fibonacci Series Java Example shows how to create and print
    Fibonacci Series using Java.
public class JavaFibonacciSeriesExample {
    public static void main(String[] args) {
          //number of elements to generate in a series
          int limit = 20;
          long[] series = new long[limit];
          //create first 2 series elements
```

```
series[0] = 0;
          series[1] = 1;
          //create the Fibonacci series and store it in an array
          for(int i=2; i < limit; i++) {</pre>
                series[i] = series[i-1] + series[i-2];
          //print the Fibonacci series numbers
          System.out.println("Fibonacci Series upto " + limit);
          for(int i=0; i< limit; i++){</pre>
                System.out.print(series[i] + " ");
    }
}
/*
Output of the Fibonacci Series Java Example would be
Fibonacci Series upto 20
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181
*/
```

Program6 - Palindrome Number

```
/*
       This program shows how to check for in the given list of numbers
       whether each number is palindrome or not
   */
public class JavaPalindromeNumberExample {
      public static void main(String[] args) {
            //array of numbers to be checked
            int numbers[] = new int[]{121,13,34,11,22,54};
            //iterate through the numbers
            for(int i=0; i < numbers.length; i++){</pre>
                  int number = numbers[i];
                  int reversedNumber = 0;
                  int temp=0;
                   * If the number is equal to it's reversed number, then
                   * the given number is a palindrome number.
                   * For ex,121 is a palindrome number while 12 is not.
                  //reverse the number
                        while(number > 0) {
                        temp = number % 10;
                        number = number / 10;
                        reversedNumber = reversedNumber * 10 + temp;
```

```
}
                if(numbers[i] == reversedNumber)
                System.out.println(numbers[i] + " is a palindrome");
                System.out.println(numbers[i] + " not a palindrome ");
          }
    }
}
/*
Output of Java Palindrome Number Example would be
121 is a palindrome number
13 is not a palindrome number
34 is not a palindrome number
11 is a palindrome number
22 is a palindrome number
54 is not a palindrome number
*/
```

Program7- Generate prime numbers between 1 & given number

```
/*
    Prime Numbers Java Example
    This Prime Numbers Java example shows how to generate prime numbers
   between 1 and given number using for loop.
*/
public class GeneratePrimeNumbersExample {
   public static void main(String[] args) {
          //define limit
          int limit = 100;
          System.out.println("Prime numbers between 1 and " + limit);
          //loop through the numbers one by one
          for(int i=1; i < 100; i++){
                boolean isPrime = true;
                //check to see if the number is prime
                for(int j=2; j < i ; j++){
                      if(i % j == 0){
                            isPrime = false;
                            break;
                      }
                // print the number
                if(isPrime)
                      System.out.print(i + " ");
          }
```

```
}
}
/*
Output of Prime Numbers example would be
Prime numbers between 1 and 100
1 2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97
*/
```

Program8- Pyramid of stars using nested for loops

```
/*
    Java Pyramid 1 Example
     This Java Pyramid example shows how to generate pyramid or triangle
     like given below using for loop.
    ****
    ****
   */
public class JavaPyramid1 {
   public static void main(String[] args) {
          for(int i=1; i<= 5; i++) {
                for(int j=0; j < i; j++) {
                      System.out.print("*");
                //generate a new line
                System.out.println("");
          }
    }
}
Output of the above program would be
***
****
*/
```

Program9 - Reversed pyramid using for loops & decrement operator.

/*

```
Java Pyramid 5 Example
     This Java Pyramid example shows how to generate pyramid or triangle
     like given below using for loop.
    12345
    1234
    123
    12
*/
public class JavaPyramid5 {
    public static void main(String[] args) {
          for(int i=5; i>0;i--){
                for(int j=0; j < i; j++) {
                      System.out.print(j+1);
                System.out.println("");
          }
    }
}
/*
Output of the example would be
12345
1234
123
12
1
*/
```

Program10 - Nested Switch

```
/*
   Statements Example
   This example shows how to use nested switch statements in a
   java program.
*/
```

```
public class NestedSwitchExample {
   public static void main(String[] args) {
         /*
          * Like any other Java statements, switch statements
          * can also be nested in each other as given in
          * below example.
          */
          int i = 0;
          int j = 1;
          switch(i)
          {
               case 0:
                     switch(j)
                     {
                           case 0:
                           System.out.println("i is 0, j is 0");
                                 break;
                           case 1:
                           System.out.println("i is 0, j is 1");
                                 break;
```

```
System.out.println("nested default
                                    case!!");
                     }
                     break;
               default:
                     System.out.println("No matching case found!!");
          }
  }
}
/*
Output would be,
i is 0, j is 1
```

*/

default:

Program11 - Calculate Circle Area using radius

```
This program shows how to calculate
   area of circle using it's radius.
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
public class CalculateCircleAreaExample {
   public static void main(String[] args) {
         int radius = 0;
         System.out.println("Please enter radius of a circle");
         try
               //get the radius from console
               BufferedReader br = new BufferedReader(new
         InputStreamReader(System.in));
               radius = Integer.parseInt(br.readLine());
               //if invalid value was entered
         catch (NumberFormatException ne)
               System.out.println("Invalid radius value" + ne);
               System.exit(0);
         catch(IOException ioe)
               System.out.println("IO Error :" + ioe);
               System.exit(0);
         }
         /*
          * Area of a circle is
          * pi * r * r
          * where r is a radius of a circle.
          */
         //NOTE : use Math.PI constant to get value of pi
         double area = Math.PI * radius * radius;
         System.out.println("Area of a circle is " + area);
   }
}
Output of Calculate Circle Area using Java Example would be
```

```
Please enter radius of a circle
19
Area of a circle is 1134.1149479459152
*/
```

Program12 - Factorial of a number using recursion

```
This program shows how to calculate
   Factorial of a number using recursion function.
   */
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
public class JavaFactorialUsingRecursion {
     public static void main(String args[]) throws NumberFormatException,
     IOException{
          System.out.println("Enter the number: ");
          //get input from the user
             BufferedReader br=new BufferedReader (new
             InputStreamReader(System.in));
          int a = Integer.parseInt(br.readLine());
          //call the recursive function to generate factorial
          int result= fact(a);
          System.out.println("Factorial of the number is: " + result);
    }
    static int fact(int b)
    {
          if(b \le 1)
                //if the number is 1 then return 1
                return 1;
          else
                //else call the same function with the value - 1
                return b * fact(b-1);
    }
}
Output of this Java example would be
Enter the number:
Factorial of the number is: 120
```

Program13 - pyramid of numbers using for loops

```
/*
   Generate Pyramid For a Given Number Example
   This Java example shows how to generate a pyramid of numbers for given
  number using for loop example.
*/
import java.io.BufferedReader;
import java.io.InputStreamReader;
public class GeneratePyramidExample {
  public static void main (String[] args) throws Exception{
            BufferedReader keyboard = new BufferedReader (new
            InputStreamReader(System.in));
         System.out.println("Enter Number:");
         int as= Integer.parseInt (keyboard.readLine());
         System.out.println("Enter X:");
         int x= Integer.parseInt (keyboard.readLine());
         int y = 0;
         for(int i=0; i<= as ;i++){
```

```
for(int j=1; j <= i ; j++) {
                  System.out.print(y + "\t");
                  y = y + x;
             }
             System.out.println("");
      }
  }
}
/*
Output of this example would be
Enter Number:
5
Enter X:
1
0
1 2
3 4 5
6 7 8 9
10 11 12 13 14
```

```
Enter Number:
5
Enter X:
2
0
2 4
6 8 10
12 14 16 18
20 22 24 26 28
Enter Number:
5
Enter X:
3
0
3 6
9 12 15
18 21 24 27
30 33 36 39 42
```

*/

Program14 - To Find Maximum of Two Numbers.

```
/*
     To Find Maximum of 2 Numbers using if else
  */
 class Maxoftwo{
 public static void main(String args[]){
     //taking value as command line argument.
     //Converting String format to Integer value
     int i = Integer.parseInt(args[0]);
     int j = Integer.parseInt(args[1]);
     if(i > j)
         System.out.println(i+" is greater than "+j);
     else
         System.out.println(j+" is greater than "+i);
 }
}
Program15 - To Find Minimum of Two Numbers using
conditional operator
   /*
     To find minimum of 2 Numbers using ternary operator
  */
     class Minoftwo{
     public static void main(String args[]){
     //taking value as command line argument.
     //Converting String format to Integer value
     int i = Integer.parseInt(args[0]);
```

```
int j = Integer.parseInt(args[1]);
int result = (i<j)?i:j;
System.out.println(result+" is a minimum value");
}</pre>
```

Program 16

```
/* Write a program that will read a float type value from the
                                                                 keyboard and
print the following output.
   ->Small Integer not less than the number.
   ->Given Number.
   ->Largest Integer not greater than the number.
*/
class ValueFormat{
  public static void main(String args[]){
      double i = 34.32; //given number
      System.out.println("Small Integer not greater than the number :
"+Math.ceil(i));
      System.out.println("Given Number : "+i);
      System.out.println("Largest Integer not greater than the number :
"+Math.floor(i));
  }
```

Program 17 - Write a program to generate 5 Random nos. between 1 to 100, and it should not follow with decimal point.

```
class RandomDemo{
    public static void main(String args[]) {
        for(int i=1;i<=5;i++) {
            System.out.println((int)(Math.random()*100));
        }
}</pre>
```

}

Program 18 - Write a program to display a greet message according to Marks obtained by student.

```
class SwitchDemo{
     public static void main(String args[]){
        as command line argument.
       switch (marks/10) {
          case 10:
          case 9:
          case 8:
                  System.out.println("Excellent");
                  break;
          case 7:
                  System.out.println("Very Good");
                 break;
          case 6:
                  System.out.println("Good");
                  break;
          case 5:
                  System.out.println("Work Hard");
                  break;
          case 4:
                  System.out.println("Poor");
                  break;
          case 3:
```

```
case 2:
    case 1:
    case 0:
        System.out.println("Very Poor");
        break;
    default:
        System.out.println("Invalid value Entered");
}
```

Program 19 - Write a program to find SUM AND PRODUCT of a given Digit.

```
class Sum_Product_ofDigit{
    public static void main(String args[]) {
        int num = Integer.parseInt(args[0]);
        //taking value as command line argument.
        int temp = num,result=0;
        //Logic for sum of digit
        while(temp>0) {
            result = result + temp;
            temp--;
        }
        System.out.println("Sum of Digit for "+num+" is : "+result);
        //Logic for product of digit
        temp = num;
```

```
result = 1;
while(temp > 0) {
    result = result * temp;
    temp--;
}
System.out.println("Product of Digit for "+num+" is : "+result);
}
```

Program 20 - Write a program to find sum of all integers greater than 100 and less than 200 that are divisible by 7

```
class SumOfDigit{
    public static void main(String args[]){
    int result=0;
    for(int i=100;i<=200;i++){
        if(i%7==0)
            result+=i;
    }
    System.out.println("Output of Program is : "+result);
}</pre>
```

Program 21 - Write a program to concatenate string using for Loop

```
Example:
```

Input - 5

```
Output - 1 2 3 4 5 */
class Join{
  public static void main(String args[]) {
    int num = Integer.parseInt(args[0]);
    String result = " ";
    for(int i=1;i<=num;i++) {
        result = result + i + " ";
    }
    System.out.println(result);
}</pre>
```

Program 22 - Program to Display Multiplication Table

```
class MultiplicationTable{
    public static void main(String args[]){
    int num = Integer.parseInt(args[0]);
    System.out.println("*****MULTIPLICATION TABLE*****");
    for(int i=1;i<=num;i++){
        for(int j=1;j<=num;j++){
            System.out.print(" "+i*j+" ");
        }
        System.out.print("\n");
    }
}</pre>
```

Program 23 - Write a program to Swap the values

```
class Swap{
    public static void main(String args[]) {
    int num1 = Integer.parseInt(args[0]);
    int num2 = Integer.parseInt(args[1]);
    System.out.println("\n***Before Swapping***");
    System.out.println("Number 1 : "+num1);
    System.out.println("Number 2 : "+num2);
    //Swap logic
    num1 = num1 + num2;
    num2 = num1 - num2;
    num1 = num1 - num2;
    System.out.println("\n***After Swapping***");
    System.out.println("Number 1 : "+num1);
    System.out.println("Number 2 : "+num2);
    }
}
```

Program 24 - Write a program to convert given no. of days into months and days. (Assume that each month is of 30 days)

```
Example :
    Input - 69
    Output - 69 days = 2 Month and 9 days */

class DayMonthDemo{
    public static void main(String args[]) {
        int num = Integer.parseInt(args[0]);
        int days = num%30;
        int month = num/30;
        System.out.println(num+" days = "+month+" Month and "+days+" days");
    }
}
```

Program 25 - Write a program to Display Invert Triangle using while loop.

```
Input - 5
Output :
5 5 5 5 5
4 4 4 4
3 3 3
2 2
```

Example:

Program 26 - Write a program to find whether given no. is Armstrong or not.

Program 27 - switch case demo

Example :

```
Input - 124
Output - One Two Four */

class SwitchCaseDemo{
  public static void main(String args[]) {
    try{
    int num = Integer.parseInt(args[0]);
    int n = num; //used at last time check
    int reverse=0,remainder;
    while(num > 0) {
       remainder = num % 10;
       reverse = reverse * 10 + remainder;
       num = num / 10;
    }
}
```

```
String result=""; //contains the actual output
while(reverse > 0) {
    remainder = reverse % 10;
    reverse = reverse / 10;
    switch(remainder) {
         case 0 :
                 result = result + "Zero ";
                 break;
         case 1 :
                  result = result + "One ";
                break;
         case 2 :
                  result = result + "Two ";
                break;
         case 3 :
                  result = result + "Three ";
                 break;
         case 4 :
                  result = result + "Four ";
                 break;
         case 5 :
                 result = result + "Five ";
                 break;
         case 6 :
                  result = result + "Six ";
                  break;
```

```
case 7 :
                             result = result + "Seven ";
                             break;
                    case 8 :
                             result = result + "Eight ";
                             break;
                    case 9 :
                             result = result + "Nine ";
                             break;
                    default:
                             result="";
                 }
                System.out.println(result);
        }catch(Exception e) {
             System.out.println("Invalid Number Format");
        }
     }
}
```

Program 28 - Write a program to generate Harmonic Series.

```
public static void main(String args[]) {
  int num = Integer.parseInt(args[0]);
  double result = 0.0;
  while(num > 0) {
     result = result + (double) 1 / num;
     num--;
  }
  System.out.println("Output of Harmonic Series is "+result);
}
```

Program 29 - Write a program to find average of consecutive N Odd no. and Even no.

```
class EvenOdd Avg{
      public static void main(String args[]){
      int n = Integer.parseInt(args[0]);
      int cntEven=0,cntOdd=0,sumEven=0,sumOdd=0;
      while (n > 0) {
           if(n%2==0){
               cntEven++;
               sumEven = sumEven + n;
           }
           else{
               cntOdd++;
               sumOdd = sumOdd + n;
           n--;
      }
      int evenAvg,oddAvg;
      evenAvg = sumEven/cntEven;
      oddAvg = sumOdd/cntOdd;
      System.out.println("Average of first N Even no is "+evenAvg);
      System.out.println("Average of first N Odd no is "+oddAvg);
 }
}
```

Program 30 - Display Triangle as follow.

```
1
    2 3
    4 5 6
    7 8 9 10 ... N */
class Output1{
      public static void main(String args[]){
          int c=0;
          int n = Integer.parseInt(args[0]);
         loop1: for(int i=1;i<=n;i++) {</pre>
         loop2: for(int j=1;j<=i;j++) {</pre>
                        if(c!=n){
                             C++;
                             System.out.print(c+" ");
                        }
                        else
                            break loop1;
                     System.out.print("\n");
                  }
     }
}
```

Extra Programs 1 - Write a program to Find whether number is Prime or Not.

```
class PrimeNo{
      public static void main(String args[]){
          int num = Integer.parseInt(args[0]);
         int flag=0;
         for(int i=2;i<num;i++) {</pre>
             if(num%i==0)
              {
                 System.out.println(num+" is not a Prime Number");
                 flag = 1;
                 break;
              }
         }
         if(flag==0)
             System.out.println(num+" is a Prime Number");
   }
}
```

Program 2 - Write a program to find whether no. is palindrome or not.

```
Example :
        Input - 12521 is a palindrome no.
        Input - 12345 is not a palindrome no. */
class Palindrome{
  public static void main(String args[]){
       int num = Integer.parseInt(args[0]);
       int n = num; //used at last time check
       int reverse=0,remainder;
       while (num > 0) {
             remainder = num % 10;
             reverse = reverse * 10 + remainder;
             num = num / 10;
       if(reverse == n)
           System.out.println(n+" is a Palindrome Number");
       else
           System.out.println(n+" is not a Palindrome Number");
```

}

Program 3 - Display Triangle as follow