**Q1 JAVA BASIC**

**(A) WRITE A JAVA PROGRAM THAT TAKES A NUMBER AS INPUTS AND PRINTS ITS MULTIPLICATION TABLE UPTO 10**

import java.util.Scanner;

public class Main {

public static void main(String[] args) {

Scanner in = new Scanner(System.in);

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

int n = in .nextInt();

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

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

}

}

}

**(B)WRITE A JAVA PROGRAM TO DISPLAY THE FOLLOWING PATTERN**

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import java.util.Scanner;

public class Edureka

{

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

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

int rows = sc.nextInt();

for (int i= 0; i<= rows-1 ; i++)

{

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

{

System.out.print(" ");

}

for (int k=0; k<=rows-1-i; k++)

{

System.out.print("\*" + " ");

}

System.out.println();

}

sc.close();

}

}

**(C) i ] WRITE A JAVA PROGRAM TO PRINT THE AREA AND PERIMETER OF CIRCLE(WITHOUT USER DEFINE)**

public class Exercise{

private static final double radius = 7.5;

public static void main(String[] args) {

double perimeter = 2 \* Math.PI \* radius;

double area = Math.PI \* radius \* radius;

System.out.println("Perimeter is = " + perimeter);

System.out.println("Area is = " + area);

}

}

**(C) ii ] WRITE A JAVA PROGRAM TO PRINT THE AREA AND PERIMETER OF CIRCLE(USER DEFINE)**

import java.util.Scanner;

public class Main2 {

public static void main(String[] args) {

Scanner io = new Scanner(System.in);

System.out.println("Input the radius of the circle: ");

double radius = io.nextDouble();

System.out.println("Perimeter is = " + (2 \* radius \* Math.PI));

System.out.println("Area is = " + (Math.PI \* radius \* radius));

}

}

**Q2 USE OF OPERATORS**

**(A)WRITE A JAVA PPROGRAM TO ADD TWO ADDITION OF BINARY**

import java.util.Scanner;

public class JavaExample {

public static void main(String[] args)

{

//Two variables to hold two input binary numbers

long b1, b2;

int i = 0, carry = 0;

//This is to hold the output binary number

int[] sum = new int[10];

//To read the input binary numbers entered by user

Scanner scanner = new Scanner(System.in);

//getting first binary number from user

System.out.print("Enter first binary number: ");

b1 = scanner.nextLong();

//getting second binary number from user

System.out.print("Enter second binary number: ");

b2 = scanner.nextLong();

//closing scanner after use to avoid memory leak

scanner.close();

while (b1 != 0 || b2 != 0)

{

sum[i++] = (int)((b1 % 10 + b2 % 10 + carry) % 2);

carry = (int)((b1 % 10 + b2 % 10 + carry) / 2);

b1 = b1 / 10;

b2 = b2 / 10;

}

if (carry != 0) {

sum[i++] = carry;

}

--i;

System.out.print("Output: ");

while (i >= 0) {

System.out.print(sum[i--]);

}

System.out.print("\n");

}

}

**(B) i ]CONVERTION OF BINARY TO DECIMAL AND VICE VERSA**

import java.util.Scanner;

class BintoDec

{

public static void main(String args[])

{

Scanner s=new Scanner(System.in);

System.out.println("Enter a binary number:");

int n=s.nextInt();

int decimal=0,p=0;

while(n!=0)

{

decimal+=((n%10)\*Math.pow(2,p));

n=n/10;

p++;

}

System.out.println(decimal);

}

}

**(B) I ] CONVERTION OF DECIMAL TO BINARY**

class BintoDec {

public static void main(String[] args) {

// binary number

long num = 110110111;

// call method by passing the binary number

int decimal = convertBinaryToDecimal(num);

System.out.println("Binary to Decimal");

System.out.println(num + " = " + decimal);

}

public static int convertBinaryToDecimal(long num) {

int decimalNumber = 0, i = 0;

long remainder;

while (num != 0) {

remainder = num % 10;

num /= 10;

decimalNumber += remainder \* Math.pow(2, i);

++i;

}

return decimalNumber;

}

}

**(C)TO REVERSE A STRING**

import java.util.Scanner;

public class Revstring

{

public static void main(String[] args)

{

String str;

System.out.println("Enter a string: ");

Scanner scanner = new Scanner(System.in);

str = scanner.nextLine();

scanner.close(); //closes the input stream

String reversed = reverseString(str);

System.out.println("The reversed string is: " + reversed);

}

public static String reverseString(String s)

{

if (s.isEmpty()) //checks the string if empty

return s;

return reverseString(s.substring(1)) + s.charAt(0); //recursively called function

}

}