**Java Programs**

**Java basic programs:**

**Day #1** (15 February 2024)

1. **Printing Fibonacci series from 0 to 100:**

public class fibonacci\_series {

public static void main(String args[]) {

int a = 0, b = 1, x;

System.out.print(a);

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

for (int i = 0; i < 10; i++) {

x = a + b;

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

a = b;

b = x;

}

}

}

***Output***: 0 1 1 2 3 5 8 13 21 34 55 89

1. **Printing Prime Numbers upto 100:**

public class prime\_number {

public static void main(String args[]) {

System.out.print("1 2 3");

int flag = 0, i = 2;

while (i <= 100) {

int mid = i / 2;

if (i % 2 != 0) {

for (int j = mid; j > 1; j--) {

if (i % j == 0) {

flag = 0;

break;

} else {

flag = 1;

}

}

if (flag == 1) {

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

}

}

i++;

}

}

}

***Output***: 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

1. **Type of Number in range of 1 to 1000:**

import java.util.Scanner;

public class Number\_type {

public static void main(String args[])

{

int flag1=0,flag2=0;

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

Scanner sc=new Scanner(System.in);

int num=sc.nextInt();

if(num==2)

{

System.out.println("The number is Even and Prime");

}

if(num==3)

{

System.out.println("The number is Odd and Prime");

}

if(num>3)

{

System.out.println();

System.out.print("The Number is");

if(num%2==0)

{

flag1=1;

}

int mid=num/2;

for(int i=mid;i>1;i--)

{

if(num%i==0)

{

flag2=0;

break;

}

else

flag2=1;

}

if(flag1==1)

System.out.print(" Even ");

else

System.out.print(" Odd ");

if(flag2==1)

System.out.print("and Prime ");

else

System.out.print("and Composite ");

}

}

}

***Output: \****Enter the Number: 5

The Number is Odd and Prime.

**Day #2** (16 February 2024)

1. **Check for Palindrome or Not :**

import java.util.Scanner;

public class Check\_Palindrome {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter the number: ");

int num = sc.nextInt();

int dig = num;

int temp = 0;

while (num != 0) {

int rem = num % 10;

num = num / 10;

temp = temp \* 10 + rem;

}

if (temp == dig) {

System.out.println("It is a Palindrome");

} else

System.out.println("It is Not Palindrome");

}

}

***Output:*** \*Enter the number: 1551

It is a Palindrome

\*Enter the number: 120

It is Not Palindrome

1. **Program to find the factorial of a Number :**

import java.util.Scanner;

public class factorial\_of\_number {

public static void main(String args[]) {

System.out.print("Enter the number :");

Scanner sc = new Scanner(System.in);

int num = sc.nextInt();

int temp = num;

int factorial = 1;

while (temp >= 1) {

factorial = factorial \* temp;

temp--;

}

System.out.println("The Factorial of " + num + " is :" + factorial);

}

}

***Output :*** Enter the number :6

The Factorial of 6 is :720

1. **Check for number is Armstrong or Not :**

import java.util.Scanner;

public class Is\_Armstrong {

public static void main(String args[]) {

Scanner sc = new Scanner(System.in);

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

int num = sc.nextInt();

int temp1 = num;

int number = num;

int count = 0;

int total = 0;

while (temp1 > 0) {

temp1 = temp1 / 10;

count++;

}

while (num > 0) {

int power = 1;

int temp = num % 10;

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

power = temp \* power;

}

total = total + power;

num = num / 10;

}

if (number == total)

System.out.println("Yes, It's a Armstrong Number.");

else

System.out.println("No, It's Not a Armstrong Number.");

}

}

***Output :\**** Enter the Number :153

Yes, It's a Armstrong Number.

\* Enter the Number :15

No, It's Not a Armstrong Number.

**Day #3** (17 February 2024)

1. **Generating Random Number of different types :**

import java.lang.Math;

import java.util.Random;

public class Generating\_RandomNumber {

public static void main(String args[]) {

int max = 750, min = 500;

double a = Math.random();

int b = (int) (Math.random() \* (max - min + 1) + min);

System.out.println("First random number :" + a);

System.out.println("RandomNumber between 500 to 750 :" + b);

Random random = new Random();

int x = random.nextInt();

int Y = random.nextInt(20);

double Z = random.nextDouble();

double A = random.nextDouble(25.00);

float B = random.nextFloat();

float C = random.nextFloat(30);

long D = random.nextLong();

boolean E = random.nextBoolean();

System.out.println("Int :" + x);

System.out.println("Int within 20 :" + Y);

System.out.println("Double :" + Z);

System.out.println("Double within 25.00 :" + A);

System.out.println("Float :" + B);

System.out.println("Float within 30 :" + C);

System.out.println("Long :" + D);

System.out.println("boolean :" + E);

}

}

}

***Output:*** \* Int : -1015582037

Int within 20 :10

Double :0.9599556810864359

Double within 25.00 :7.616312262255967

Float :0.08363044

Float within 30 :6.15337

Long :4130136497746171201

boolean :true

\* Int :511805540

Int within 20 :15

Double :0.2516341915582503

Double within 25.00 :18.73443585516465

Float :0.90479296

Float within 30 :26.74646

Long :2901785982106234161

boolean :false

1. **Generating Patterns :**
2. **Printing Left-Right angled Triangle :**

public class Printing\_Pattern {

public static void main(String args[]) {

int i, j, row = 6;

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

{

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

{

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

}

System.out.println();

}

}

}

***Output : \****

***\* \****

***\* \* \****

***\* \* \* \****

***\* \* \* \* \****

***\* \* \* \* \* \****

1. **Printing Right-Right angled Triangle :**

public class Printing\_Pattern {

public static void main(String args[]) {

int i, j, row = 6;

for (i = 0; i < row; i++) {

for (j = 2 \* (row - i); j >= 0; j--) {

System.out.print(" ");

}

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

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

}

System.out.println();

}

}

}

***Output : \****

***\* \****

***\* \* \****

***\* \* \* \****

***\* \* \* \* \****

***\* \* \* \* \* \****

1. **Printing Pyramid Triangle :**

public class Printing\_Pattern {

public static void main(String args[]) {

int i, j, row = 6;

for(i=0;i<row;i++) {

for(j=row-i;j>1;j--) {

System.out.print(" ");

}

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

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

}

System.out.println();

}

}

}

***Output : \****

***\* \****

***\* \* \****

***\* \* \* \****

***\* \* \* \* \****

***\* \* \* \* \* \****

**Day #4** (26 February 2024)

1. **Finding\_.equals():**

public class equals

{

    public static void main(String args[])

    {

        String x="10",y="10";

            System.out.println("Two objects are "+x.equals(y));

    }

}

***Output:*** Two objects are true.

1. **Object\_creation in java:**

public class create\_obj {

void dispaly() {

System.out.println("SKADOOSH");

}

public static void main(String args[]) {

create\_obj x = new create\_obj();

{

System.out.println("I am Speed");

}

x.dispaly();

}

}

***Output:*** I am Speed

SKADOOSH

1. **Ascii conversion program:**

public class ASCII\_Conversion {

    public static void main(String args[])

    {

        char a1,a2,a3;

        a1='a';

        a2='z';

        a3='r';

        int b1=a1;

        int b2=a2;

        int b3='@';

        int b4='s';

        int b5=(int)a3;

        System.out.println("The Ascii value of "+a1+" is "+b1);

        System.out.println("The Ascii value of "+a2+" is "+b2);

        System.out.println("The Ascii value of @ is "+b3);

        System.out.println("The Ascii value of s is "+b4);

        System.out.println("The Ascii value of "+a3+" is "+b5);

    }

}

***Output:***

The Ascii value of a is 97

The Ascii value of z is 122

The Ascii value of @ is 64

The Ascii value of s is 115

The Ascii value of r is 114

1. **Ascii for all program:**

public class Ascii\_For\_All {

    public static void main(String args[])

    {

        for(int i=34;i<124;i++)

        {

            System.out.println("The ascii value of "+(char)i+" is "+i);

        }

    }

}

***Output:***

The ascii value of " is 34

The ascii value of # is 35

The ascii value of $ is 36

The ascii value of % is 37

The ascii value of & is 38

The ascii value of ' is 39

The ascii value of ( is 40

The ascii value of ) is 41

The ascii value of \* is 42

The ascii value of + is 43

The ascii value of , is 44

The ascii value of - is 45

The ascii value of . is 46

The ascii value of / is 47

The ascii value of 0 is 48

The ascii value of 1 is 49

The ascii value of 2 is 50

The ascii value of 3 is 51

The ascii value of 4 is 52

The ascii value of 5 is 53

The ascii value of 6 is 54

The ascii value of 7 is 55

The ascii value of 8 is 56

The ascii value of 9 is 57

The ascii value of : is 58

The ascii value of ; is 59

The ascii value of < is 60

The ascii value of = is 61

The ascii value of > is 62

The ascii value of ? is 63

The ascii value of @ is 64

The ascii value of A is 65

The ascii value of B is 66

The ascii value of C is 67

The ascii value of D is 68

The ascii value of E is 69

The ascii value of F is 70

The ascii value of G is 71

The ascii value of H is 72

The ascii value of I is 73

The ascii value of J is 74

The ascii value of K is 75

The ascii value of L is 76

The ascii value of M is 77

The ascii value of N is 78

The ascii value of O is 79

The ascii value of P is 80

The ascii value of Q is 81

The ascii value of R is 82

The ascii value of S is 83

The ascii value of T is 84

The ascii value of U is 85

The ascii value of V is 86

The ascii value of W is 87

The ascii value of X is 88

The ascii value of Y is 89

The ascii value of Z is 90

The ascii value of [ is 91

The ascii value of \ is 92

The ascii value of ] is 93

The ascii value of ^ is 94

The ascii value of \_ is 95

The ascii value of ` is 96

The ascii value of a is 97

The ascii value of b is 98

The ascii value of c is 99

The ascii value of d is 100

The ascii value of e is 101

The ascii value of f is 102

The ascii value of g is 103

The ascii value of h is 104

The ascii value of i is 105

The ascii value of j is 106

The ascii value of k is 107

The ascii value of l is 108

The ascii value of m is 109

The ascii value of n is 110

The ascii value of o is 111

The ascii value of p is 112

The ascii value of q is 113

The ascii value of r is 114

The ascii value of s is 115

The ascii value of t is 116

The ascii value of u is 117

The ascii value of v is 118

The ascii value of w is 119

The ascii value of x is 120

The ascii value of y is 121

The ascii value of z is 122

The ascii value of { is 123

**Java number programs**

1. **Reversing of a number:**

import java.util.Scanner;

public class Reverse\_Number {

    public static void main(String args[])

    {

        Scanner sc=new Scanner(System.in);

        System.out.print("Enter the number to Reverse :");

        int num=sc.nextInt();

        String a=Integer.toString(num);

        int size=a.length();

        int reverse=0;

        for(int i=0;i<size;i++)

        {

            int temp=num%10;

            num=num/10;

            reverse=(reverse\*10)+temp;

        }

        System.out.println("The reverse of a number "+a+" is "+reverse);

    }

}

***Output:***

Enter the number to Reverse :123654

The reverse of a number 123654 is 456321

1. **Program to convert number to word:**

import java.util.\*;

public class number\_to\_word {

    public static String ones(int num) {

        String one[] = new String[] { "Zero", "One", "Two", "Three", "Four", "Five", "Six", "Seven", "Eight", "Nine" };

        String a = one[num];

        return a;

    }

    public static String ten(int num) {

        String tens[] = new String[] { "Eleven", "twelve", "thirtheen", "fourteen", "fifteen", "sixteen",

                "seventeen", "eighteen", "ninteen" };

        String a = tens[num];

        return a;

    }

    public static String multi(int num) {

        String multi[] = new String[] { "ten", "twenty", "thirty", "fourty", "fifty", "sixty", "seventy", "eighty",

                "ninty" };

        String a = multi[num];

        return a;

    }

    public static void fours(int num) {

        String word, words, wordss;

        int dup = num % 10;

        num = num / 10;

        int dup2 = num % 10;

        int dup3 = num / 10;

        if (dup == 0 && dup2 != 0) {

            word = multi(dup2 - 1);

            wordss = ones(dup3);

            System.out.println(wordss + " Hundred and " + word);

        }

        if (dup2 == 0 && dup != 0) {

            word = ones(dup);

            wordss = ones(dup3);

            System.out.println(wordss + " hundred and  " + word);

        }

        if (dup == 0 && dup2 == 0) {

            word = ones(dup3);

            System.out.println(word + " hundred");

        }

        if (dup != 0 && dup2 != 0 && dup3 != 0) {

            word = ones(dup);

            words = multi(dup2 - 1);

            wordss = ones(dup3);

            System.out.println(wordss + " hundred and " + words + " " + word);

        }

    }

    public static void main(String args[]) {

        Scanner sc = new Scanner(System.in);

        System.out.print("Enter the number to convert : ");

        int num = sc.nextInt();

        String a = Integer.toString(num);

        int size = a.length();

        String word = "zero";

        String words = "Zero";

        String wordss = "zero";

        if (size >= 1) {

            if (size > 4) {

                System.out.println("Not possible");

            }

            if (size == 1) {

                word = ones(num);

                System.out.println(word);

            }

            if (size == 2) {

                if (num % 10 != 0 && num < 20) {

                    int temp = num % 10;

                    words = ten(temp - 1);

                    System.out.println(words);

                }

                if (num % 10 == 0) {

                    int temp = num / 10;

                    words = multi(temp - 1);

                    System.out.println(words);

                }

                if (num > 20) {

                    int tempo = num % 10;

                    int tempo2 = num / 10;

                    word = ones(tempo);

                    words = multi(tempo2 - 1);

                    System.out.println(words + " " + word);

                }

            }

            if (size == 3) {

                fours(num);

            }

            if (size == 4) {

                int temp = num / 1000;

                word = ones(temp);

                System.out.print(word + " thousand ");

                int major = num % 1000;

                fours(major);

            }

        }

    }

}

***Output:***

\*Enter the number to convert : 5

Five

\*Enter the number to convert : 89

eighty Nine

\*Enter the number to convert : 167

One hundred and sixty Seven

\*Enter the number to convert : 1005

One thousand Zero hundred and Five

1. **Program to check the number is Automorphic or Not:**

import java.util.\*;

public class automorphic {

    public static void main(String args[]) {

        Scanner sc = new Scanner(System.in);

        System.out.print("Enter the number : ");

        int num = sc.nextInt();

        int res = num \* num;

        String a = Integer.toString(num);

        int size = a.length();

        int count = 1;

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

            count = count \* 10;

        }

        int temp = res % count;

        if (num == temp) {

            System.out.println("Yes, it is a automporphic number");

        } else

            System.out.println("It's not a automorphic number");

    }

}

***Output:***

\* Enter the number : 25

Yes, it is a automporphic number

\* Enter the number : 17

It's not a automorphic number

1. **Program to check the number is Automorphic or Not:**

import java.util.\*;

public class Peterson {

    public static int factorial(int num)

    {

        int f=1;

        for(int i=num;i>1;i--)

        {

            f=f\*i;

        }

        return f;

    }

    public static void main(String args[])

    {

        int sum=0;

        Scanner sc=new Scanner(System.in);

        System.out.print("Enter a number : ");

        int num=sc.nextInt();

        int fial=num;

        String a = Integer.toString(num);

        int size = a.length();

        for(int i=0;i<size;i++)

        {

            int temp=num%10;

            int check=factorial(temp);

            sum=sum+check;

            num=num/10;

        }

        if(fial==sum)

        {

            System.out.println("Yes, it's a peterson number");

        }

        else

            System.out.println("It's not a peterson number ");

    }

}

***Output:***

\* Enter a number : 145

Yes, it's a peterson number

\* Enter a number : 164

It's not a peterson number

1. **Program to check the number is Sunny or Not:**

import java.util.\*;

public class Sunny {

public static void main(String args[])

{

Scanner sc=new Scanner(System.in);

System.out.print("Enter the number : ");

int num=sc.nextInt();

int act=num+1;

double root=Math.sqrt(act);

if(root-Math.floor(root)==0)

System.out.println("Yes, the number is sunny.");

else

System.out.println("NO, the number is not sunny.");

}

}

***Output:***

\* Enter the number : 80

Yes, the number is sunny.

\* Enter the number : 10

NO, the number is not sunny.

1. **Program to check the number is Tech or Not:**

import java.util.Scanner;

public class Tech {

public static void main(String args[])

{

Scanner sc=new Scanner(System.in);

System.out.print("Enter a number : ");

int num=sc.nextInt();

int fin=num;

String a=Integer.toString(num);

int size=a.length();

int div=size/2;

int z=1;

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

{

z=z\*10;

}

if(size%2!=0)

System.out.println("Not Possible");

else{

int p1=num%z;

int p2=num/z;

int sum=p1+p2;

int sqr=sum\*sum;

if(fin==sqr)

System.out.println("Yes, It's a tech number.");

else

System.out.println("No, It's not a tech number");

}

}

}

***Output:***

\* Enter a number : 2025

Yes, It's a tech number.

\* Enter a number : 1312

No, It's not a tech number