**DAY-02**

**1.Armstrong Number or not**

import java.util.Scanner;

public class Armstrong {

    public static void main(String[] args) {

    Scanner input=new Scanner(System.in);

    int number=input.nextInt();

    int originalNumber, remainder, result = 0;

        originalNumber = number;

        while (originalNumber != 0)

        {

            remainder = originalNumber % 10;

            result +=Math.pow(remainder,3);

            originalNumber /= 10;

        }

        if(result == number)

            System.out.println(number + " is an Armstrong number.");

        else

            System.out.println(number + " is not an Armstrong number.");

    }

}

Sample input 153

Sample output 153 is not an Armstrong number

**2.Nth factor**

import java.util.Scanner;

public class nthfact{

public static void main(String[] args){

Scanner input=new Scanner(System.in);

System.out.println(“Enter an number”);

int num=input.nextInt();

System.out.println(“enter an N number”);

int n=input.nextInt();

int a[]=new int[100];

int x=0;

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

    if(num%i==0){

    a[x]=i;

    x++;

}

}

    System.out.print(x);

    System.out.print(a[n-1]);

}

}

Sample input

Enter an number=100

N=4

Sample output

No of factors=9

4th factor of 100=5

**3.Find leap year or not??**

import java.util.Scanner;

public class leapyear{

public static void main(String[] args)

{

Scanner input=new Scanner(System.in);

int year=input.nextInt();

if(year%400==0){

    System.out.println(year+"leap year");

}else if(year%4==0){

    System.out.println(year+"leap year");

}else if(year%100==0){

    System.out.println(year+"leap year");

}else{

    System.out.println(year+"not a leap year");

}

}

}

Sample input

Enter an year=2024

Sample output

2024 is a leap year

**4. Find perfect numbers between two integers?**

import java.util.Scanner;

public class sumofperfectsquares{

public static void main(String[] args){

Scanner input=new Scanner(System.in);

int a=input.nextInt();

int b=input.nextInt();

int i=0,x=1;

while(i<b){

    int y=x\*x;

    int t=y;

    int sum=0;

    while(y!=0)

    {

        int rem=y%10;

        sum=sum+rem;

        y=y/10;

    }

    if(sum<10){

        System.out.println(t+"");

    }

    i=x\*x;

    x++;

}

}

}

Sample input

Enter an number a=1

Enter an number b=40

Sample output

Perfect squares are 1 4 16 25 36

**5.To find Simple Interest?**

import java.util.Scanner;

public class SI{

public static void main(String[] args){

Scanner input=new Scanner(System.in);

int p=input.nextInt();

int t=input.nextInt();

int r=input.nextInt();

int simpleintererst=(p\*t\*r)/100;

System.out.println("simple interest is"+simpleintererst);

}

}

Sample input

P=40000

T=2

R=1.5

Sample output

SI=4000

**6. To find number and their square**

import java.util.Scanner;

public class A {

public static void main(String[] args){

Scanner input=new Scaneer(System.in);

int num1=input.nextInt();

int num2=input.nextInt();

for(int i=num1;i<=num2;i++){

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

}

}

}

Sample Input:

Enter the lower range:45

Enter the upper range:49

Sample Output: [(45, 2025), (46, 2116), (47, 2209), (48, 2304), (49, 2401)]

**7.Hallow square pattern**

import java.util.Scanner;

public class hallow{

private static Scanner sc;

public static void main(String[] args) {

sc = new Scanner(System.in);

System.out.print("Enter Hollow Square Side = ");

int side = sc.nextInt();

System.out.println("Printing Hollow Square Star Pattern");

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

{

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

{

if (i == 0 || i == side - 1 || j == 0 || j == side - 1)

{

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

}

else {

System.out.print(" ");

}

}

System.out.println();

}

}

}

Enter Hollow Square Side = 4

Printing Hollow Square Star Pattern

\* \* \* \*

\* \*

\* \*

\* \* \* \*

**8.Merge two sorted arrays**

import java.util.Scanner;

import java.util.Arrays;

public class Merge {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);

        System.out.print("Enter the number of elements for each array: ");

        int n = input.nextInt();

        int[] firstArray = new int[n];

        int[] secondArray = new int[n];

        System.out.println("Enter elements for the first array:");

        for (int i = 0; i < n; i++) {

            firstArray[i] = input.nextInt();

        }

        System.out.println("Enter elements for the second array:");

        for (int i = 0; i < n; i++) {

            secondArray[i] = input.nextInt();

        }

        int fal = firstArray.length;

        int sal = secondArray.length;

        int[] result = new int[fal + sal];

        System.arraycopy(firstArray, 0, result, 0, fal);

        System.arraycopy(secondArray, 0, result, fal, sal);

        System.out.println("Merged array: " + Arrays.toString(result));

        input.close();

    }

}

Enter the number of elements for each array: 2

Enter elements for the first array:

2

2

Enter elements for the second array:

3

2

Merged array: [2,2,3,2]

**9. To find student status**

import java.util.Scanner;

public class score{

public static void main(String[] args){

Scanner input=new Scanner(System.in);

int score;

score=input.nextInt();

if(score>=90){

    System.out.println("Grade A");

}

else if(score>=80){

    System.out.println("Grade B");

}

else if(score>=70){

    System.out.println("Grade C");

}

else if(score>=60){

    System.out.println("Grade D");

}

else

{

    System.out.println("Grade F");

}

}

}

Enter an score 90

Grade A

**10. To find how many wifi users in the company**

import java.util.Scanner;

public class users{

public static void main(String[] args){

Scanner input=new Scanner(System.in);

int total\_users=input.nextInt();

int staff\_users=input.nextInt();

int non\_teching\_users=staff\_users/3;

int Student\_users;

student\_users=total\_users-(staff\_users+non\_teching\_users);

System.out.println(Student\_users);

}

}