1. Write a Java Program to find GCD of two given numbers.

import java.util.Scanner;

public class GSD {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter two numbers: ");

int n1 = sc.nextInt();

int n2 = sc.nextInt();

int gcd = gcd(n1, n2);

System.out.printf("GCD of %d and %d is %d.", n1, n2, gcd);

}

private static int gcd(int n1, int n2) {

if(n2 == 0)

return n1;

else

return gcd(n2, n1 % n2);

}

}

1. Write a java program to LCM of TWO given number.

import java.util.Scanner;

public class LCM {

private static int gcd(int n1, int n2) {

if(n2 == 0)

return n1;

else

return gcd(n2, n1 % n2);

}

public static int lcm(int n1, int n2) {

return (n1/gcd(n1, n2))\*n2;

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter two numbers: ");

int n1 = sc.nextInt();

int n2 = sc.nextInt();

System.out.printf("LCM of %d and %d is %d.", n1, n2, lcm(n1, n2));

}

}

1. Write a Java Program to print all the Prime Factorsof the Given Number.

import java.util.Scanner;

public class Factors {

private static void factor(int n) {

for(int i=2; i<=n; i++) {

if(isprime(i) == 1) {

int x = n;

while(x%i==0) {

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

x/= i;

}

}

}

}

private static int isprime(int n) {

for(int i =2; i<=Math.sqrt(n); i++) {

if(n%i == 0)

return 0;

}

return 1;

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter any number: ");

int n = sc.nextInt();

factor(n);

}

}

1. Check whether the Given Numberis a Palindrome or NOT.

import java.util.Scanner;

public class Palindrome {

private static int rev(int n, int temp) {

if(n==0)

return temp;

temp=(temp\*10)+(n%10);

return rev(n/10, temp);

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter two numbers: ");

int n = sc.nextInt();

int temp = rev(n, 0);

if(temp==n)

System.out.println("yes");

else

System.out.println("no");

}

}

1. Write a Java Program to check whether the Given Number is Prime Number or NOT.

import java.util.Scanner;

public class Prime {

private static boolean isPrime(int n, int i) {

if(n<=2)

return (n==2)? true: false;

if(n%i == 0)

return false;

if(i\*i>n)

return true;

return isPrime(n, i+1);

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter any number: ");

int n = sc.nextInt();

if(isPrime(n, 2))

System.out.println("yes");

else

System.out.println("no");

}

}

1. Write a Java Program to check whether the given number is Armstrong Number or NOT.

import java.util.Scanner;

public class Armstrong {

private static boolean isArmstrong(int n) {

int num = (int) Math.log10(n) +1;

int sum = calculate(n, num);

return sum == n;

}

private static int calculate(int n, int num) {

if(n== 0)

return 0;

int digit = n%10;

return(int)Math.pow(digit, num) + calculate(n/10, num);

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter any number: ");

int n = sc.nextInt();

if(isArmstrong(n)) {

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

}else {

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

}

}

}

1. Write a Java Program to check whether the given number is Perfect Number or NOT.

import java.util.Scanner;

public class Perfect {

int num;

Perfect(int nn){

num= nn;

}

int s=0;

int j=1;

int sumfactor(int i) {

if(i==j)

return s;

else if(i%j==0) {

s=s+j;

j++;

return sumfactor(i);

}

else {

j++;

return sumfactor(i);

}

}

private void check() {

if(num==sumfactor(num))

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

else

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

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter any number: ");

int n = sc.nextInt();

Perfect obj = new Perfect(n);

obj.check();

}

}

1. Write a Java Program to check whether the given numbers are Amicable Numbers or NOT.

import java.util.Scanner;

public class Amicable {

static int div(int n) {

int result =0;

for(int i=2; i<=Math.sqrt(n); i++) {

if(n%i==0) {

if(i==(n/i))

result +=i;

else

result += (i+n/i);

}

}

return (result+1);

}

static boolean amicable(int x, int y) {

if(div(x) != y)

return false;

return (div(y)==x);

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter two numbers: ");

int x = sc.nextInt();

int y = sc.nextInt();

if(amicable(x, y))

System.out.println("Yes");

else

System.out.println("No");

}

}

9. Write a Java Program to check whether the given number is Ramanujam's Number or NOT.

10. Write a Java Program check whether the given number is Automorphic Number or NOT.

import java.util.Scanner;

public class Automorphic {

private static boolean isAuto(int n) {

int square = n\*n;

while(n>0) {

if(n%10 != square%10)

return false;

n = n/10;

square = square/10;

}return true;

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter any number: ");

int n = sc.nextInt();

System.out.println(isAuto(n)? "Automorphic" :"Not Automorphic");

}

}