```
/* Check Armstrong number


Algorithm

1)  Count the digit present in a number( Using remainder and quotient of number)

        a)  Take input from user and store it in "n" and then in another variable "m"
        b)  While loop until m!=0
        c)  Store remainder
        d)  Count and increment the "count" counter after every iteration
        e)  store the quotient in "m"

2)  Calculating every digit exponent on the basis of user input and then adding every digit
exponent to get an Armstrong Number

        a)  Take input from user and store it in "n" and then in another variable "j"
        b)  While loop until m!=0
        c)  Store remainder
        d)  Using Math.pow(base,power) method for calculating exponent of each digit
        e)  converting the double data type result into integer
        f)  Adding every exponent and store it in "i"
        e)  store the quotient in "m"

Logic

    1)  With the help of remainder we will count number of digits i.e. after    every iteration
    remainder will be stored in "r", increment the count variable counter and the quotient will
    be stored as new "m".

    2)  Calculate exponent using Math.pow(base,power) method and add all exponent.
    3)  Compare it with user input "n" but now with "j"

Reference   :   https://www.youtube.com/watch?v=LNScl60_jaI

*/
import java.util.Scanner;
import java.lang.Math;

/*      SIMPLE LOGIC PROGRAM - Can only check upto three digit correctly.

class Armstrong_Num
{
    int i=0,q,r,j;

    void disp()
    {
        Scanner s=new Scanner(System.in);
        System.out.println("Enter your number = ");

        int n=s.nextInt();
        j=n;

        while(n!=0)
        {
            r=n%10;
            System.out.println(r);
            i=i+(r*r*r);
            System.out.println(i);
            n=n/10;
            //System.out.println(i);
        }

        System.out.println(j);

        if(i==j)
```

```
        {
            System.out.println("Entered number is Armstrong number");
        }
        else
        {
            System.out.println("Entered number is NOT Armstrong number");
        }
    }
}*/

class Armstrong_Num_For_n_Value
{
    int i=0,q,r,j,rev,count,k,m;

    void disp()
    {
        Scanner s=new Scanner(System.in);
        System.out.println("Enter your number = ");
        int n=s.nextInt();

        j=n;
        m=n;

    //LOOP- 1   :   Count the digit present in a number
    //LOOP PURPOSE -    To use count of digit as a POWER for Math.pow() method

        while(m!=0)     // loop will run till "m" is not equal to zero.
        {

            r=m%10;     //storing the remainder in "r" using modulo(%) i.e. percentage


            if(r>=0)    // checking value of "r" every time to increment count even if it is
            zero. In actual, it is counting the each digit in entered number with the help of
            remainder.
            {
                count++;
                k=count;
            }

            m=m/10;     //storing the quotient in "m" and changing the value of "m" each time
            so that to proceed to count the each digit in a number. as you can see, to avoid
            the overriding of value of "n" after every iteration I have used "m" variable so
            that original value of "n" will not be changed.

        }
        System.out.println("Number of digits in your entered number is =  "+k);

    //LOOP- 2   :   Calculating every digit exponent on the basis of user input and then adding
    every exponent to get an Armstrong Number

        while(n!=0)
        {
            r=n%10;

            // storing and converting the output of Math.pow(base,power) method into integer.
            pow() method is used for extracting exponent. It returns double value by default.
            int l=(int) Math.pow(r,k);

            i=i+l;      //storing and adding exponent value(may be square, cube, etc) of every
            digit as per user input

            n=n/10;

        }
```

```
        System.out.println(j);

        if(i==j)
        {
            System.out.println("Entered number is Armstrong number = "+j);
        }
        else
        {
            System.out.println("Entered number is NOT Armstrong number = "+j);
        }
    }
}


class Armstrong_Num_Main
{
    public static void main(String args[])
    {
        /*Armstrong_Num o=new Armstrong_Num();
        o.disp();*/

        Armstrong_Num_For_n_Value obj=new Armstrong_Num_For_n_Value();
        obj.disp();
    }
}
```

Output

```
C:\Users\Dhruv\Desktop\Java>java Armstrong_Num_Main
Enter your number =
1634
Number of digits in your ertered number is =  4
1634
Entered number is Armstrong number = 1634
```