Q1. **Write a java program to check whether given number is Armstrong number or not ?**

```
package Tsgol.com.Loops;

import java.util.Scanner;

public class whilearm {

	public static void main(String[] args) {

		int  num,arm=0,r,a;

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

		Scanner sc = new Scanner(System.in);

		num=sc.nextInt();

	    a=num;

	    while(num>0)

	    {

		r=n%10;

		arm=(r*r*r)+arm;

		num=num/10;

	    }

	if(a==arm)

	  System.out.print("It is armstrong num");

	else

	  System.out.print("it is not an armstrong");

	  }

}
```

Output :

Enter a number

143

It is not an

Q2. Write a Program to display all the Armstrong number between 10 to 1000

```
package loop.com;

import java.util.*;

public class Arm_num {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

int num,r,sum,count=0,multi;

for(int i=10;i<1000;i++)

{

sum=0;

count=0;

num=i;

while(num>0)

{

num=num/10; //10/10=1 , 1/10 =0

count++;

}

num=i;

while(num>0)

{

r=num%10;

multi=1;

for(int j=1;j<=count;j++)

multi=multi*r;

sum=sum+(multi);
```

```
num=num/10;

}

if(sum==i)

System.out.println(i);

}

}

}
```

Output :

```
153

370

371

407
```

Q3. Write a program to find sum of the following series

a. Sum = x- 1/x + 2/x - 3/x ….n/x

```
```

```java
package forloops;

import java.util.*;

public class Sumof_series {

public static void main(String[] args) {

Scanner obj = new Scanner(System.in);

int i,n;

float x,sum=0f;

System.out.println("Program to find sum of x-1/x+2/x...n/x ");

System.out.println("Enter x value ");

x=obj.nextFloat();

System.out.println("Enter n value ");

n=obj.nextInt();

for(i=1;i<=n;i++)

{

if(i%2==0)

{

sum=sum+(float)i/x;

}

else

sum=sum-(float)i/x;

}

System.out.println("Sum of Series : " + sum);

}

}
```

Output :

```
Program to find sum of x-1/x+2/x...n/x

Enter x value

3

Enter n value

4

Sum of Series : 0.66666675
```

b. 1!+2!+3!+…..n! ?

```
package forloops;

import java.util.Scanner;

public class Factorial {

public static void main(String[] args) {

int i,n;

long fact=1,factsum=0;

Scanner key=new Scanner(System.in);

System.out.println("Enter the n value");

n=key.nextInt();

for (i=1;i<=n;i++)

{

fact=(fact*i);

factsum=factsum+fact;

}

System.out.println("sum of " + n + "! is = " + factsum);

}
```

```
}
```

Output :

```
Enter the n value

6

sum of 6! is = 873
```

Q4. Write a java program to check given number is perfect number or not ?

```
package Tsgol.com;

import java.util.*;

public class Perfect_number {

public static void main(String[] args) {

Scanner key=new Scanner(System.in);

int num,i,sum=0;

System.out.println("Enter the number");

num=key.nextInt();

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

{

if(num%i==0)

{

System.out.println(i);

sum +=i;

}

}

if(sum==num)
```

```
{
System.out.println("It is a perfect number");
}
else
{
System.out.println("It is not a perfect number");
}
}
}
```

Output :

```
Enter the number
6
1
2
3
It is a perfect number
```

Q5. Display all perfect numbers between 1 to 100000 ?

```
package forloops;
public class PerfectNumbers {
public static void main(String[] args) {
int i;
for(i=0;i<100000;i++)
{
int sum=0;
```

```
for(int j=1;j<i;j++)

{

if(i%j==0)

{

sum +=j;

}

}

if(sum==i && sum!=0 )

System.out.println(i);

}

}

}
```

Output :

```
6

28

496

8128
```

Q6. Write a program to extract only character from a string. Eg: Af02284khff -> Afkhff ?

```
package forloops;

import java.util.*;

public class Extracts {

public static void main(String[] args) {

String text, string="";
```

```
char ch;

int i;

Scanner key = new Scanner(System.in);

System.out.println("Enter your text ");

text = key.next();

System.out.println("length of the string "+text.length());

for(i=0;i<text.length();i++)

{

ch = text.charAt(i);

if(ch>='a' & ch<='z' | ch>='A' & ch<='Z')

string=string + ch;

}

System.out.println("extracted string "+ string);

}

}
```

Output :

```
Enter your text

Af02284khff

length of the string 11

extracted string Afkhff
```

Q7. Write a program to find reverse of digits ?

```
package loop.com;

import java.util.*;

public class While_reverseNum {

public static void main(String[] args) {

int n,r;

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

Scanner sc=new Scanner(System.in);

n=sc.nextInt();

while(n>0)

{

r=n%10;

System.out.print(r);

n=n/10;

}

}

}
```

Output :

```
Enter a number

143

341
```

Q8. Write a program to find power value of given base and exponent number ?

```
package loop.com;

import java.util.*;

public class Power {

public static void main(String[] args) {

int n,p,result=1;

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

Scanner r=new Scanner(System.in);

n=r.nextInt();

System.out.println("Enter Power");

p=r.nextInt();

for(int i=1;i<=p;i++)

{

result=n*result;

}

System.out.println("Power " + result);

}

}
```

Output :

```
Enter a number:

5

Enter Power

3

Power 125
```

Q9. Write a program to convert every first letter of string to capital letter

a. eg: the Hindu -> The Hindu

```
package loop.com;

public class Caps {

String[] str, str2;

int size;

Caps(String[] s, int n)

{

str=s; //allocate memory and copy the value of arguments

str2=s;

size=n;

}

void Converto()

{

int i;

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

{

String res = str[i].substring(0, 1).toUpperCase() +
str[i].substring(1);

str2[i]=res;

}

}

void display()

{

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

```
System.out.println(str2[i]);

}

public static void main(String[] args) {

String[] text = {"the Hindu"};

Caps obj = new Caps(text, text.length);

obj.Converto();

obj.display();

}

}
```

Output :

```
The Hindu
```

Q10. Write a program to count no. of digits present in a string ?

```
package forloops;

public class Extract_digits {

public static void main(String[] args) {

String s="My phone number is 8790835454";

int count=0;

for(int i=0;i<s.length();i++)

{

if(Character.isDigit(s.charAt(i)))

count++;

}

System.out.println("The number of digits in the given string
is:" + count);
```

```
}

}
```

Output :

```
The number of digits in the given string is:10
```

```
Enter a number

143

341
```