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

**package** ControlStmts; **import** java.util.Scanner; **public class** Armstrong {

**public static void** main(String[] args) { Scanner obj = **new** Scanner(System.***in***);

**int** num, sum=0, r, num1,num2, count=0, multiply;

System.***out***.println("Enter your number to Check for Armstrong");

num = obj.nextInt(); num2=num1 =num;

**while**(num1>0)

{

num1=num1/10; count++;

}

**while**(num>0)

{

r=num%10; multiply=1;

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

multiply = multiply \* r; sum=sum+multiply; num=num/10;

}

System.***out***.println("sum="+sum);

**if**(sum==num2)

System.***out***.println("Given number is armstrong");

**else**

System.***out***.println("Given number is NOT armstrong");

}

}

**Output:**

Enter your number to Check for Armstrong 153

sum=153

Given number is armstrong

**(or)**

Enter your number to Check for Armstrong 120

sum=9

Given number is NOT Armstrong

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

**package** ControlStmts;

**import** java.util.\*;

**public class** AllArmstrong {

**public static void** main(String[] args) { Scanner sc = **new** Scanner(System.***in***); **int** i, num, r, sum;

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

{

sum=0; num=i;

**while**(num>0)

{

r=num%10; sum=sum+(r\*r\*r); 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

**package** Anudip.com; **import** java.util.Scanner; **public class** Sum\_series2 {

**public static void** main(String[] args) { Scanner obj = **new** Scanner(System.***in***);

**int** i,n;

**float** x,sum=0;

System.***out***.println("Program to find of 1/x-2/x+3/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-i/x;//1-0.5

**else**

sum=sum+i/x;;

}

System.***out***.println("sum of series: "+sum);

}

}

**Output:**

Program to find of 1/x-2/x+3/x. n/x

Enter x value 4

Enter n value 5

sum of series: 0.75

# b. 1!+2!+3!+…..n!

**package** ControlStmts;

**import** java.util.\*;

**public class** SumOfSeries2 {

**public static void** main(String[] args) { Scanner obj = **new** Scanner(System.***in***);

**int** i,j,n; **long** fact=1; **long** sum=0;

System.***out***.print("Enter n value"); n= obj.nextInt();

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

{

fact=1;

**for**(j=1;j<=i;j++)

{

fact=fact\*j;

}

sum=sum+fact; System.***out***.print(fact+" ! + ");

}

System.***out***.println("\n sum of above series"+sum);

}

}

**Output:**

Enter n value5

1 ! + 2 ! + 6 ! + 24 ! + 120 !

sum of above series153

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

**package** ControlStmts;

**import** java.util.Scanner;

**public class** PerfectNumber {

**public static void** main(String[] args) { Scanner sc=**new** Scanner(System.***in***);

**int** num,i,sum=0;

System.***out***.println("Enter the number"); num=sc.nextInt();

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

{

**if**(num%i==0)

{

sum +=i;

}

}

**if**(sum==num)

{

}

**else**

{

}

}

}

System.***out***.println("It is a perfect number");

System.***out***.println("It is not a perfect number");

**Output:**

Enter the number 496

It is a perfect number

**(or)**

Enter the number 120

It is not a perfect number

# Q5. Display all perfect numbers between 1 to 100000

**package** ControlStmts;

**import** java.util.\*;

**public class** AllPerfectNumbers {

**public static void** main(String[] args) { Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter Start and End Range");

**int** num1=sc.nextInt();

**int** num2=sc.nextInt(); System.***out***.println("perfect numbers are: ");

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

{

**int** n=i;

**int** sum=0,factor=1;

**while**(factor<n)

{

**if**((n%factor)==0)

{

sum=sum+factor;

}

factor++;

}

**if**(sum==i)

{

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

}

}

}

}

**Output:**

enter Start and End Range 1

100000

perfect numbers are: 6

28

496

8128

# Q6. Write a program to extract only character from a string. Eg:

**Af02284khff -> Afkhff**

**package** ControlStmts;

**import** java.util.\*;

**public class** Extract\_Char {

**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();

**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 anusha123456deepthi

extracted string anushadeepthi

# Q7. Write a program to find reverse of digits

**package** ControlStmts;

**public class** Reverse\_no {

**public static void** main(String[] args) {

**int** number = 34567, reverse = 0;

**while**(number != 0)

{

**int** remainder = number % 10; reverse = reverse \* 10 + remainder; number = number/10;

}

System.***out***.println("The reverse of the given number is: " + reverse);

}

}

**Output:**

The reverse of the given number is: 76543

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

**package** ControlStmts; **import** java.util.Scanner; **public class** Power\_val {

**public static void** main(String[] args) { Scanner sc=**new** Scanner(System.***in***);

**int** base,expo;

**long** power=1;

System.***out***.println("enter the value base"); base=sc.nextInt();

System.***out***.println("enter the value exponent"); expo=sc.nextInt();

**while**(expo!=0)

{

power=power\*base;

--expo;

}

System.***out***.println("the value of the power:"+power);

}

}

**Output:**

enter the value base 3

enter the value exponent 5

the value of the power : 243

# Q9. Write a program to convert every first letter of string to capital letter eg: the Hindu -> The Hindu

**package** ControlStmts;

**public class** Capitalize\_Letter {

**public static void** main(String[] args) {

String text = "welcome to the birthday party";

**int** pos = 0;

**boolean** capitalize = **true**;

StringBuilder sb = **new** StringBuilder(text);

**while** (pos < sb.length())

{

**if** (sb.charAt(pos) == ' ')

{

capitalize = **true**;

}

**else if** (capitalize &&

!Character.*isWhitespace*(sb.charAt(pos)))

{

sb.setCharAt(pos, Character.*toUpperCase*(sb.charAt(pos)));

capitalize = **false**;

}

pos++;

}

System.***out***.println(sb.toString());

}

}

**Output:**

Welcome To The Birthday Party

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

**package** ControlStmts;

**public class** Count\_Of\_Digits {

**public static void** main(String[] args) {

**int** count = 0, num = 234567;

**while** (num != 0)

{

num /= 10;

++count;

}

System.***out***.println("Number of digits: " + count);

}

}

**Output:**

Number of digits: 6