

Q) Write a program to print the following pattern.

```
public class Pattern {  
    public static void main(String args[]){  
        Scanner input = new Scanner (System.in);  
        Char c = input.next().charAt(0);  
        int n = input.nextInt();  
        for (int i=1; i<=n; i++)  
        {  
            for (int j=1; j<=i; j++)  
            {  
                System.out.print(c);  
            }  
            System.out.println();  
        }  
    }  
}
```

O/P:- Enter the character to be printed : %
Max Number of time printed : 3

%
% %
% % %

Q) Find the year of the given date is leap year or not.

```
import java.util.Scanner;  
public class ak  
{  
    public static void main(String args[]){  
        Scanner input = new Scanner(System.in);  
        System.out.print("Enter Year:");  
        String year = input.next();  
        String a[] = year.split("/");  
        String d = a[2];  
        int num = Integer.parseInt(d);  
        if((num % 4 == 0 && num % 100 != 0) || num % 400 == 0)  
            System.out.println("It is a leap year");  
        else  
            System.out.println("It is not a leap year");  
    }  
}
```

O/P:- Enter Date: 04/11/1947
It is not a leap year

3) Find the num of factors for the given number

```
public class factor {  
    public static void main(String args[]) {  
        Scanner input = new Scanner(System.in);  
        int n = input.nextInt();  
        int factors = 0;  
        for (int i = 1; i <= n; i++) {  
            if (n % i == 0)  
                factors++;  
        }  
        System.out.print("number of factors = " +  
                         factors);  
    }  
}
```

O/P:- Given num = 10
number of factors = 9

4) write a program to print the given number is perfect num or not?

```
Scanner input = new Scanner(System.in);  
int n = input.nextInt();  
int factors = 0;  
for (int i = 1; i < n; i++) {  
    if (n % i == 0)
```

factors = factors + i;

if (n == factors)

System.out.print("It's a Perfect num");

y
y

O/P :- Given num : 6

It's a Perfect number

5) Write a program to print the number of vowels in the given statements?

Public class num {

Public static void main (String args) {

Scanner input = new Scanner (System.in);

String name = input.nextLine();

int len = name.length();

char a[] = new char [len];

int vow = 0;

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

{

a[i] = name.charAt(i);

if (a[i] == 'a' || a[i] == 'e' || a[i] == 'i' ||

a[i] == 'o' || a[i] == 'u')

a[i] == 'A' || a[i] == 'E' || a[i] == 'I' || a[i] == 'O'

|| a[i] == 'U') vow = vow + 1;

y

System.out.println(vow);

y

O/P : Saveetha School of Engineering
Number of vowels = 12

6) write a program to print consonants and vowels separately in the given word.

```
Scanner input = new Scanner(System.in);
String name = input.nextLine();
int len = name.length();
char a[] = new Char[len];
char vow[] = new char[len];
char con[] = new char[len];

int v=0, c=0;
for (int i=0; i<len; i++)
{
    a[i] = name.charAt(i);
    if (a[i] == 'a' || a[i] == 'e' || a[i] == 'i' || a[i] ==
        'o' || a[i] == 'u' || a[i] == 'A' || a[i] == 'E' || a[i] ==
        'I' || a[i] == 'O' || a[i] == 'U') {
        Vow[v] = a[i];
        v++;
    } else {
        con[c] = a[i];
        c++;
    }
}
System.out.print("Consonants:");
for (int i=0; i<v; i++)
{
    System.out.print(vow[i]);
}
System.out.print("\nVowels:");
for (int j=0; j<c; j++)
{
    System.out.print(con[j]);
}
```

O/P
Engineering
Consonants: ngnmg
Vowels: eieei

7) Fibonacci Series :-

```
public class Fibo{  
    public static void main(String args[]){  
        Scanner input = new Scanner(System.in);  
        int n = input.nextInt();  
        int a1 = 0, a2 = 1;  
        for(int i = 0; i < n; i++) {  
            System.out.print(a1 + " ");  
            int a3 = a1 + a2;  
            a1 = a2;  
            a2 = a3;  
        }  
    }  
}
```

O/P : Enter the n value : 6
0 1 1 2 3 5

8) write a program print below pattern

```
public class Pattern {  
    public static void main(String args[]){  
        Scanner input = new Scanner(System.in);  
        int n = input.nextInt();  
        for(int i = 1; i <= n; i++) {  
            for(int j = 1; j <= i; j++) {  
                System.out.print(i);  
            }  
            System.out.println();  
        }  
    }  
}
```

Q8:-

1
2 2
3 3 3
4 4 4 4
5 5 5 5 5

q) write a program to print hollow square symbol pattern?

```
public class pattern {  
    public static void main(String args[]){  
        Scanner input=new Scanner(System.in);  
        int n=5;  
        char c=input.next().charAt(0);  
        for(int i=1; i<=n; i++)  
            {  
                for(int j=1; j<=n; j++)  
                    {  
                        if(i==1 || j==1 || i==n || j==n)  
                            System.out.print(c+"");  
                        else  
                            System.out.print(" ");  
                    }  
                System.out.println();  
            }  
    }  
}
```

Y
Y
Y
Y

(o) perfect number or not?

```
public class Perfect {
    public static void Main(String args[]) {
        Scanner input = new Scanner(System.in);
        int n = input.nextInt();
        int factors = 0;
        for (int i = 1; i < n; i++) {
            if (n % i == 0)
                factors = factors + i;
        }
        if (n == factors)
            System.out.print("It's a perfect num");
        else
            System.out.print("It's not a perfect num");
    }
}
```

O/p: Given number is
It's a perfect number.