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CSA 0993 JAVA PROGRAMMING

## ASSIGNMENT - 3

Page 29  
Date 29/07/24

Q1. Program to print following pattern

%

% %

% % %

```
public class Pattern {  
    public static void main (String [] args) {  
        Scanner input = new Scanner (System.in);  
        char c = input.nextInt();  
        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();  
        }  
    }  
}
```

Output

%

% %

% % %

Input:

Character to be printed: %

Max no of times printed: 3

## 22. 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("Not a leap year");  
    }  
}
```

Input :

Enter Date: 04/11/1947

Output:

Given year is Non Leap Year

Input:

Enter Date: 06/07/2020

Output:

Given year is Leap Year.

23. Number of factors for the given number

Sample

```
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 = factors + 1;  
        }  
    }
```

```
System.out.print("Number of factors = " + factors);  
1. 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(factors);
```

Input :

Given number : 100

Output :

Number of factors = 9

24. 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)  
                System.out.print ("It's a perfect number");  
        }  
    }  
}
```

Input:

Given Number: 6

Output

It's a perfect number.

25

Print number of vowels in given statement

```

public class Vowels {
    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++;
            }
        }
        System.out.println(vow);
    }
}

```

Input :

Sreeatha School of Engineering

Output

No. of vowels = 12.

28.

Write a program to print consonants and vowels.

```
public class Consonants {  
    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];  
        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]);  
        }  
    }  
}
```

Input: Word: Engineering

Output: Consonants: ngnrmng , Vowels: eieei

27

## Fibonacci Series

```
public class Fibonacci{  
    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;  
            a2=a3;  
        }  
    }  
}
```

Input:

n Value : 6

Output:

0 1 1 2 3 5

28. Program to find Square, cube of given decimal number.

```
public class Power {  
    public static void main (String [] args) {  
        Scanner input = new Scanner (System.in);  
        float n = input.nextFloat();  
        System.out.print ("Square: " + (n*n));  
        System.out.print ("Cube: " + (n*n*n));  
    }  
}
```

Input : 0.6

Output

Square No : 0.36

Cube No : 0.216

29. To find Frequency of each element in the array

```

import java.util.Arrays;
import java.util.Scanner;
public class A {
    public static void main(String [] args) {
        Scanner input = new Scanner(System.in);
        int a[] = new int [] {1, 2, 8, 3, 2, 2, 2, 5, 1};
        int t[] = new int [a.length];
        int visited = -1;
        for (int i=0; i<a.length; i++) {
            int count = 1;
            for (int j=i+1; j<a.length; j++) {
                if (a[i] == a[j]) {
                    count++;
                }
            }
            t[j] = visited;
            if (t[i] != visited) {
                t[i] = count;
            }
        }
        for (int i=0; i<a.length; i++) {
            if (t[i] != visited)
                System.out.println(a[i] + " " + t[i]);
        }
    }
}

```

Input: {1, 2, 8, 3, 2, 2, 2, 5, 1}

Output:

Element	Frequency
1	2
2	4
8	1
3	1
5	1

80

Given no Perfect no 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 number");  
        }  
    }  
}
```

Input : 6

Output :

It's a Perfect number .