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Assignment 3

21. Write a program to print the pattern

Input: Enter the character to be printed: %
Max number of time period: 3

```
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();  
}
```

22. Find the year of the given date is leap 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");
}

```

23. Find the number of factors for the given number

```

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);

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);

```

24. Write a program to print the given number is Perfect number 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 number");
}

```

25. Write a program to print the number of vowels in the given statement?

```

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;
}
System.out.println(vow);

```

26. 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];

```

```
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("\n vowels: ");
```

```
    for (int j=0; j<c; j++)
```

```
    {
```

```
        System.out.print(con[j]);
```

```
    }
```

27. Write a program to print fibonacci series

```
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;

```

28. Write a program to find the square, cube of the given decimal number

```

Scanner input = new Scanner(System.in);
float n = input.nextFloat();
system.out.print("square: " + (n*n));
system.out.print("cube: " + (n*n*n));

```

29. Write a program to find the square, print the below pattern.

```

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();
}

```

30. Write a program to print the given number is perfect number (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 number");
```

```
};
```

```
input.close();
```

```
System.out.print(" ");
```

```
System.out.print(" ");
```

```
};
```

```
}
```

```
};
```

```
};
```

```
};
```

```
};
```

```
}
```

```
};
```

```
}
```

```
};
```

```
}
```

```
};
```

```
};
```