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1. write a program to Print the Pattern

```
class main {  
    public static void main (String[] args) {  
        char c = input.next().charAt(0);  
        int n = input.nextInt();  
        for (int i = 1; i <= n; i++) {  
            for (int j = 1; j <= i; j++) {  
                sys.out.println(c);  
            }  
            sys.out.println();  
        }  
    }  
}
```

2. find the given year is leap year or not

```
public class main {  
    public static void main (String args[]) {  
        int n = 2000;  
        if (n % 4 == 0 && n % 100 != 0 || n % 400 == 0) {  
            sys.out.println("leap year");  
        }  
        else {  
            sys.out.println("not leap year");  
        }  
    }  
}
```

3 find the number of factors for given number.

```
Public class main {  
    Public static void main (String args[]) {  
        int n=5; factor=0;  
        for (int i=1; i<=n; i++)  
        {  
            if (n % i == 0)  
                factor = factor + 1;  
        }  
        System.out.println(factor);  
    }  
}
```

4 write a Program to check whether a number is perfect or not?

```
Public class main {  
    Public static void main (String args[]) {  
        int n=4; factor=0;  
        for (int i=1; i<=n; i++)  
        {  
            if (n % i == 0)  
                factor = factor + i;  
        }  
        if (n == factor)  
            System.out.println("It is a Perfect number");  
        else  
            System.out.println("It is not a Perfect number");  
    }  
}
```



Q write a program to number of vowels in string?

```
Public class main {
```

```
Public static void main (String args []) {
```

```
String name = "RAM";
```

```
int len = name.length();
```

```
char a[] = new char(len);
```

```
int count = 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')
```

```
        count = count + 1;
```

```
}
```

```
System.out.println(count);
```

```
}
```

6 write a Program to Print hollow square pattern

```
Public class main {
```

```
    Public static void main (String args[]) {
```

```
        int n = 5;
```

```
        char c = 'a';
```

```
        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 + " ");
```

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

```
                else
```

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

```
            }
```

```
        }
```

```
    }
```

7 write Program to Print coordinate separator

```
Import java.util.Scanner;
```

```
Public class main {
```

```
    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 row[] = new char[len];
```

```
        char col[] = new char[len];
```

```
        int v = 0, c = 0;
```



```

for (int i=0; i<len; i++) {
    char ch = arr[i];
    if ((ch == 'a' || ch == 'e' || ch == 'i' ||
        ch == 'o' || ch == 'u')) {
        vowels[v++] = ch;
    }
    else {
        cons[c++] = ch;
    }
}

System.out.println("vowels:");
for (int i=0; i<v; i++) {
    System.out.println(vowels[i]);
}

System.out.println("consonants:");
for (int i=0; i<c; i++) {
    System.out.println(cons[i]);
}
}
}

```

8 write a program to print fibonacci series

```
public class main {  
    public static void main (String args[]) {  
        int n = 5;  
        int a1 = 0, a2 = 1;  
        for (int i = 0; i < n; i++) {  
            System.out.println(a1 + " ");  
            int a3 = a1 + a2;  
            a1 = a2;  
            a2 = a3;  
        }  
        System.out.println();  
    }  
}
```

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write a program to find the square cube of given decimal number?

```
public class main {
```

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

```
        int n = 25;
```

```
        System.out.println ("square;" + (n*n));
```

```
        System.out.println ("cube;" + (n*n*n));
```

```
    }
```

```
}
```