

JAVA - Assignment
CSA-0993

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1) Factorial of n?

```
Scanner input = new Scanner(System.in);
int n = input.nextInt();
int fact = 1;
for (int i = 1; i <= n; i++) {
    fact = fact * i;
}
System.out.print("Factorial = " + fact)
```

O/p : Enter a num = 6
6 Factorial = 720

2) Write a program to print the below pattern.

```
Scanner input = new Scanner(System.in);
int n = input.nextInt();
int k = 1;
for (int i = 1; i <= n; i++) {
    for (int j = 1; j <= i; j++) {
        System.out.print(k * k + " ");
        k++;
    }
    System.out.println();
}
```

O/P

1	4	9	
16	25	36	
49	84	81	100

Q) Find the number of composite numbers in an array of elements.

Scanner input = new. Scanner (System.in);

int arr [] = {16, 18, 27, 16, 23, 21, 19};

int len = arr.length;

int count = 0;

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

{

int c=0;

for (int j=i, j<100; j++)

{

if (arr[i] % j == 0)

{

c++;

j

j

if (c > 2)

count++;

j

System.out.println (count);

O/P :- Array of elements = {16, 18, 27, 16, 23, 21}

Number of Composite Numbers = 5

4) Find the n^{th} odd number after n odd numbers.

```
Scanner input = new Scanner(System.in);
int n = input.nextInt();
int arr[] = new int[100];
int j=1;
for (int i=1; i<100; i++) {
    if (i%2!=0) {
        arr[j] = i;
        j++;
    }
}
System.out.print(arr[n*2]);
```

Q/P:-

$N=4$
 4^{th} odd number after 4 odd num = 15

5) Character String :-

```
Scanner input = new Scanner(System.in);
String str = input.nextLine();
char c = input.next().charAt(0);
char arr[] = new char[str.length()];
int len = str.length();
int x=0;
for (int i=0; i<len; i++) {
    arr[i] = str.charAt(i);
    if (arr[i]==c)
```

```
{  
System.out.println(c+" is found in  
String at index:"+ (i+1));
```

x=1;

y

if(x==0)

```
System.out.print("Character not found")
```

O/P:- Enter the String : I am a programmer
Enter the character to be searched:

P is found in string at index: 8

6) 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);
```

y

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

y

```
for (int i=n-1; i>=1; i--)
```

{

```
for (int j=1; j<=i; j++)
```

```
{  
    System.out.print(i);  
}  
System.out.println()  
y
```

O/P:-

2 2

3 3 3

4 4 4 4

3 3 3

2 2

1

7) Armstrong num :-

```
Scanner input = new Scanner(System.in)  
int n = input.nextInt();  
int num1 = n;  
int arm = 0;  
while (num1 != 0)  
{  
    int rem = num1 % 10;  
    arm = arm + (rem * rem * rem);  
    num1 = num1 / 10;  
}  
if (n == arm)  
    System.out.print("Armstrong num");  
else  
    System.out.print("Not a Armstrong  
num");
```

O/P:- Enter a num: 153

Armstrong number

8) reverse order :-

```
import java.util. Scanner;  
import java.util. Arrays;  
public class A  
{  
    public static void main (String args[])  
    {  
        Scanner input = new. Scanner (System. in);  
        String name = input. nextLine();  
        int len = name. length();  
        char arr[] = new char (len);  
        String Alpha;  
        for (int i=0; i<len; i++)  
        {  
            arr[i] = name. charAt(i);  
        }  
        Arrays. sort (arr);  
        for (int i=len-1; i>=0; i--)  
        {  
            System. out. print (arr[i] + " ");  
        }  
    }  
}
```

o/p:- Enter the word : MOSQUE
Alphabetical order : USQ OME

a) String from user display the same string after removing vowels from it.

```
Scanner input = new Scanner(System.in)
String name = input.nextLine();
String n1 = name.replaceAll("aeiou AEIOU",
                           "");
```

```
System.out.println(n1);
```

o/p:- Enter a string:- we can play the game
the string without vowels is : w cn plv
th gm

10) Hollow Square Dollar Pattern?

```
public static void main (String args[]) {
    Scanner input = new Scanner (System.in)
    int n = input.nextInt();
    for (int i=0; i<n; i++) {
        for (int j=0; j<n; j++) {
            if (i==0 || j==0 || i==n-1 || j==n-1)
                System.out.print ("$");
            else
                System.out.print (" ");
        }
    }
}
```

System.out.println();

y