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ASSIGNMENT 4

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Course.Code: CSA0990

1.) Factorial of n:

```
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner iput = new Scanner(System.in);
        int fact = 1;
        System.out.print("Enter the number: ");
        int n = iput.nextInt;

        For(int i = 0; i <= n; i++) {
                fact *= i;
            }
        System.out.println("Factorial of " + n
                        " is " + fact);
    }
}
```

2.) Print the pattern:

```
import java.util.Scanner;
public class Scanner{
  public static void main(String[] args){
    Scanner iput = new Scanner(System.in);
    System.out.println("Enter the No.of rows: ");
    int k = 1;
    int n = iput.nextInt;
    For(int i = 1; i <=n; i++){
      For(int j = 1; j <= i; j++){
        System.out.println(k ** k + " ");
        k++;
      }
      system.out.println();
    }
}
```

3) No. of Composite numbers in an array of elements:

```
public Class Coposite {
    public Static Void main(String[] args) {
    int[] arr = {16, 27, 18, 16, 23, 21, 10};
    int count = 0;
For (int num::arr) {
    if (isComposite(num)) {
        count++;
    }
System.out.println(" No.of Composite numbers: "
                    + count);
}
public Static boolean isCoposite(int num) {
    if (num <=1) {
        return False;
    }
For (int i = 2; i <= Math.sqrt(num); i++) {
    if (num % i == 0) {
        return True;
    return False;
}
```

(4) find nth odd num after n odd numbers.

```
Import java.util.Scanner;
Public class findnthoddnumber{
    Public static void main (string[]args){
        int n=new Scanner (System.in).nextInt();
        int result = n*n-1;
        System.out.println(n+"th odd num after"+n+" oddnums="
                                                +result);
    }
}
```

Input: 4
output: 4th odd num after 4 oddnums = 15

(5) write a program find whether given character present in string or not if it exist print index of it

```
Import java.util.Scanner;
Public class Findcharactersinstring{
    Public static void main (String[]args){
        Scanner input = new Scanner (System.in);
        System.out.print ("enter string:");
        String str = input.nextline();
        System.out.print("enter char to search:");
        char c=input.next().charAt(0);
        int index=-1;
        for(int i=0;i<str.length();i++){
            if(str.charAt(i)==c){
                index=i;
                break;
            }
        }
```

```
        if (index >=0){
            System.out.println(c+"found in index :"+index);
        }else{
            system.out.println("char not found");
        }
    }
}
```

Input : Enter String : I am a Programmer
enter char to search : P
output : P found in index : 7.

(6) write a Program to print below Pattern.

```
Import java.util.Scanner;
Public class NumberPattern{
    Public static void main(String[] args){
        Scanner input = new Scanner(System.in);
        int n = input.nextInt();
        for(int i =1; i <=2*n-1; i++){
            int num = i <=n ? i : 2*n-i;
            for(int j =1; j <=num; j++){
                System.out.print(num+" ");
            }
            System.out.println();
        }
    }
}
```

Input : 4

output :

```
1
2 2
3 3 3
4 4 4 4
3 3 3
2 2
1
```

(7) Program to find whether given number is armstrong or not

```
Import java.util.Scanner;
Public class Armstrongnum{
  Public static void main(string[]args){
    Scanner input = new Scanner (System.in);
    int n = input.nextInt();
    int arm = 0, num = n;
    while (num>0){
      int digit = num % 10;
      arm += digit * digit * digit;
      num /= 10;
    }
    if (n == arm){
      System.out.println("armstrong num");
    }
    else{
      System.out.println("not armstrong");
    }
  }
}
```

Input: 153
Output: Armstrong num.

(8) write program to arrange letters of alphabetically in reverse order.

```
Import java.util.Scanner;
Import java.util.Arrays;
Public class reverse alphabet{
  Public static void main(String[]args){
    Scanner input = new Scanner (System.in);
    char[] arr = input.nextLine().toCharArray();
    Arrays.sort(arr);
    for(int i=arr.length-1;i>=0;i--){
      System.out.print(arr[i]+" ");
    }
  }
}
```

Input: MOSQUE
output: USQOME

(9) write program to string from user, display same string after removing vowels

```
Import java.util.Scanner;
Public class Remove Vowels{
   Public static Void main(String[] args){
      Scanner input = new Scanner(System.in);
      String result = input.nextLine().replaceAll("
                                    [aeiouAEIOU]","");
      System.out.println("String without vowels:"+result);
   }
}
```

Input: we can play the game.
output: w cn ply th gm

(10) write program to print hollow Square dollar pattern.

```
Import java.util.Scanner;
Public class HollowSquare{
   Public static void main{
      Scanner input = new Scanner(System.in);
      char i = input.next().charAt(0);
      for(int j=1; j<=5; j++){
        System.out.print((i==1||j==1||i==5||j==5 ?
                                    ("$"):" ")+" ");
      }
      System.out.println();
   }
}
```

Input: 5
output:

```
$ $ $ $ $
$       $
$       $
$       $
$ $ $ $ $
```