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CSA-0993
Programming in Java for
Application development.

ASSIGNMENT-3

① write a program to print the following pattern:

```java
import java.util.scanner;
public class patternPrinter {
    public static void main(string[] args){
        scanner input.next().charAt(0);
        int n= input.nextint();
        for (int i=1; i<=n; i++ ){
            System.out.println (string.value of(c+" " ). repeat(i).trim());
        }
    }
}
```

② find the year of the given data is leap year or not

```java
import.java.util.scanner;
public class leap yearchecker{
    public static void main (string[] args){
        scanner input = new scanner(system.in);
        int year = input.parseint (input.next().split("/")[2]);
        if ((year% 4==0 && year% 100!=0) [] (year% 400==0)){
            System.out.println ("Given year is a leap year");
        } else {
            system.out.println("Given year is no leap year");
        }
    }
}
```

③ Find the number of factors for the given number.

```java
import java.util. scanner;
public class  Factorcounter;
   public  static  void  main (string[] args) {
      int  n= new scanner (system.in).nextInt(), factor
                          =0;
      for (int i=1 ;i<n; i++) if (n%i=0) factors = "
                                         +factors);
   }

}
```

④ write a program to print the given the number
Ps porfect number or not ?

```java
import java. until. scanner;
public class perfect Number checkup {
   public  static  void main (string[] args) {
      int  n= new scanner (system.in).nextInt(), sum=0;
      for (int i=1 ; i<n; i++) if (n% i==0) sum +=i;
      if (n== sum) {
         system.out. println("It is perfect number");
      } else {
         system.out. println (" It is not a perfect
                                         number");
      }

   }

}
```

⑤ write a program to print the number of vomols in the given statement?

```java
import java.util.scanner;
public class VomelCoonter {
    public static void main (string[] args) {
        int vow =0;
        for (char c : new scanner (system.in)nextline().tochar Array[]))
            if ("AEIOUaeiou".idexOf (c)! = -1) vow+;
        system.out.println(" Number of vowels =" + vow);
    }
}
```

⑥ write a program to print consonants and vowels separately in the given word.

```java
import java.util.scanner;
public class consonantvowel separator {
    public static void main [string [] args {
        scanner input = new scanner (system.in);
        String name = input.nextline(), vowels ="", consonats=" ";
        for (charc; name.to charArray())
            if (AEIOUaeiou". idndexOf (c) - ! =1) vowels + = c+ "";
            else consonants + = c+ "";
        system.out.println(" constants : "+constants.trim()};
        system.out.println('vowels "+ vowels.trim());
    }
}
```

⑦ write a program to print the Fibonacci series.

```java
import java.util.scanner;
public class Fibonacci series {
    public static void main (string[] args) {
        Scanner input = new scanners (system.in);
        int n = input.nextInt(), a1 = 0, a2 = 1;
        for (int i = 0; i < n; i++) {
            System.out.print (a1 + " ");
            a2 = a1 + (a1 = a2);
        }
    }
}
```

⑧ write a program to find the square, cube of the given decimal number.

```java
import java.util.scanner;
public class squarecube {
    public static void main (string[] args) {
        float n = new Scannor (system.in).nextFloat();
        system.out.println ("square Number: " + (n*n));
        system.out.println ("cube number:" + (n*n*n));
        sys
    }
}
```

(9) program to find the frequency of each element in the array.

```java
import java.util. HashMap;
import java.util. Map;
public class FrequencyCounter{
    public static void main (String [] args){
        int [] a = {1, 2, 8, 3, 2, 2, 2, 5, 1 };
        Map <integer, integer >feq. put (num, freq =
new HashMap<>();
        for (int num : a) freq. put (num, freq.get Or default
(num, 0) +1 );
        freq. for Each (key, value) -> System. out .println
(key + " |' + value "});
    }
}
```

(10) write a program to print the given number is perfect number or not?

```java
import java. util. Scanner;
public class perfectNumberChecker{
    public static void main (String[] args) {
        int n= new Scanner (System. in ) nextInt (). sum = 0;
        for (int i= 1 ; i < n; i++)
            if (n % i ==0) sum += i;
        if (n == sum)
            System .out. println(" It is a perfect number");
        else
            System. out. println (" It's not a perfect number);
    }
}
```

(11) write a program to print hollow square symbol pattern?
Get the symbol from user.

```
import java.util. scanner;
public class HollowSquarePattern{
  public static void main (string[] args) {
    scanner input =new Scanner (system.in);
    Char c= input .next (). charAt(0);
    for (int i=1; i<=5; i++, system.out.print())
      for(int j=1 ; j<=5; j++)
        system.out.print (i== 1 || j==1 || i== 5||j ==5 ? c:" ")+
                                                " ");
    }
}
```

(12) write a program to print the below pattern:

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

```
import java.util scanner;
public class NumberPattern{
  public static void main (string[] args){
    int n=new scanner (system.in).nextInt();
    for (int i=1 ; i <n; i ++, system.out.print())
      for (int j=1; j <=i; j ++)
        system.out.print (i + "" );
    }
  }
```