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COURSE: JAVA
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JAVA - PROGRAMMING

ASSIGNMENT - 3.

1. Write a program to print the following pattern.

```
import java.util.scanner;
public class Pattern Printer
{
 Public static void main(String[] args)
 {
  Scanner input =new Scanner(System.in);
  char c =input.next().charAt(0);
  int n = input.nextInt();
  for (int i=1; i<=n; i++)
  {
   System.out.println(String.valueOf(c+" ").repeat(i).trim());
  }
 }
}
```

2. Find the year of the given date is leap year or not.

```
import java.util.Scanner;
public class Leapyear Checker
{
 Public static void main (String[] args)
{
 Scanner input = new Scanner (System.in);
 int year = Integer.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 not leap year");
 }
 }
}
```

3. Find the number of factors for the given numbers

```
import java.util.Scanner;
public class FactorCounter
{
 int n = new Scanner(System.in).nextInt(), factors=0;
 for(int i=1; i<=n; i++) if(n%i==0) factors++;
 System.out.println("Number of factors = "+factors);
}
}
```

4. Write a program to print the given number is perfect number or not?

```
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's a perfect number");
  } else{
   system.out.println("It's not a perfect number");
  }
 }
}
```

5) Write a program to print the number of vowels in the given statement?

```
import .java.util.Scanner;
public class VowelCounter{
Public static void main(String[]args)
{
int vow=0;
for(char c: new Scanner(System.in).nextLine().toCharArray())
if("AEIOUaeiou".indexOf(c)!=-1)vow++;
System.out.println("Number of vowels =" +vow);
}
}
```

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

```
import.java.util.Scanner;
public class ConsonantVowelseparator
{
public static void main(String[] args)
{
Scanner input = new Scanner(System.in);
String name = input.nextLine(), vowels ="", consonants ="";
for(char c: name.toCharArray())
if("AEIOUaeiou".indexOf(c)!=-1)vowels+=c+" ";
else consonants+=c" ";
System.out.println("Consonants:" + Consonants.trim())
System.out.println("Vowels:" + vowels.trim());
}
}
```

7. Write a program to print the Fibonacci series.

```
import java.util.Scanner;
public class FibonacciSeries
{
 Public Static Void main(String[] args)
{
 Scanner input = new Scanner (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

```
import.java.util.scanner;
public class SquareCube
{
Public static void main (String[] args)
{
 float n = new Scanner (System.in).nextFloat();
 System.out.println("Square Number:" + (n*n));
 System.out.println("Cube Number:" + (n*n*n));
 }
}
```

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9. Program to find the frequency of each element in the array.

```
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>freq=newHashMap<>();
 for(int num:a) freq.put(num, freq.getOrDefault(num,0)+1);
 freq.forEach((key,value)->System.out.println(key+" "+value));
}
}
```

10. Write a program to print the given number is Perfect number or not;

```
import java.util.Scanner;
Public class PerfectNumberChecker
{
 Public static void main(String[]args)
 {
  int n = newScanner(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's aperfect number");
  else
    System.out.println("It's not a perfect number");
 }
}
```