Practice programs : OOJ Week-2 Java programs

3) Write a java program to accept a number n from the user and print n rows of output as given below if n = 4

```
1
2 3
4 5 6
7 8 9 10
```

CODE :

```
import java.util.Scanner;
class p1 {
 public static void main (String args[]) {
   Scanner s = new Scanner (System.in);
   int k=1;
   System.out.println ("Enter the number of rows:");
   int n = s.nextInt();
   System.out.println ("Pattern");
   for (int i=1; i<=n; i++)
     {
        for (int j=1; j<=i; j++)
          {
            System.out.print (k+" ");
            k++;
          }
        System.out.println();
     }
 }
}
```

4] Write a java program to accept the CIE marks (out of 50) and SEE marks (out of 100) of a student and print his/her grade. Use if.... else if ladder

CODE:

```
import java.util.Scanner;
class p2{
public static void main (String args[]) {
  Scanner s= new Scanner (System.in);
  double tot;
  System.out.println ("Enter CIE marks:");
  int CIE = s.nextInt();
  System.out.println ("Enter SEE marks:");
  int SEE = s.nextInt();
  tot = (SEE/2.0) + (double)(CIE);
  if (CIE>=20 && SEE>=40)
  {
    if (tot >89 && tot<=100)
    System.out.println ("Grade:S");
    else if (tot >79 && tot<=89)
    System.out.println ("Grade:A");
    else if (tot >69 && tot<=79)
    System.out.println ("Grade:B");
    else if (tot >59 && tot<=69)
    System.out.println ("Grade:C");
    else if (tot >49 && tot<=59)
    System.out.println ("Grade:D");
    else
    System.out.println ("Grade:E");
  }
  else if (CIE>=20 && SEE<40)
  System.out.println ("Grade:F");
  else
  System.out.println ("Not eligible, grade not applicable");
}}
```

5) Write a JAVA program to print the prime numbers between given two integers (inclusive). Accept these two integers from the user.

CODE:

```
import java.util.Scanner;
class p3 {
  public static void main (String args[]) {
    Scanner s = new Scanner (System.in);
    System.out.println ("Enter two positive numbers:");
    int low = s.nextInt();
    int high = s.nextInt();
    System.out.print ("Prime numbers between" + low + "and"
      high + "(inclusive) are:");
    while (low <= high) {
      boolean flag = false;
      for (int i = 2; i <= low/2; ++i) {
        if (low % i == 0) {
          flag = true;
          break;
        }
      }
      if (!flag && low != 0 && low != 1)
        System.out.print (low = " ");
      ++low;
  }
  }
}
```

6] JAVA program to find area and volume.

```
import java.util.Scanner;
import static java.lang.Math.sqrt;
class p4 {
```

```
public static void main (String args[])
{
  int c;
  double a,v,r,h; Scanner s = new Scanner(System.in);
  while (true)
  {
    System.out.println("Enter the choice of shape :");
    System.out.println(" 1. Cylinder \n 2. Cone \n 3. Sphere \n
     0. Exit");
    Scanner c = s.nextInt();
    switch (c)
    {
      case 1: System.out.println("Enter radius :");
              r = s.nextDouble();
              System.out.println("Enter height :");
              h = s.nextDouble();
              a = (2*3.14*r*h)+(2*3.14*r*r);
              v = (3.14*r*r*h);
              System.out.println("Area :"+a+"\nVolume:"+v);
              break;
      case 2: System.out.println("Enter radius:");
              r = s.nextDouble();
              System.out.println("Enter height :");
              h = s.nextDouble();
              a = (3.14*r)*(r*sqrt((h*h)+(r*r)));
              v = (3.14*r*r*h)/3.0;
              System.out.println("Area:"+a+"\nVolume:"+v);
              break;
      case 3: System.out.println("Enter radius :");
              r = s.nextDouble();
              a = 4*3.14*r*r;
              v = (4*3.14*r*r*r)/3.0;
              System.out.println("Area:"+a+"\nVolume:"+v);
              break;
      case 0: System.out.println("Exit");
              System.exit(0);
      default: System.out.println("Invalid Choice");
}}}
```