

Week 2

③ Write a C/Java program to accept a number of n from user and print n rows of output as given if n=4

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

```
import java.util.Scanner
```

```
class Pattern {
```

```
    public static void main (String args []) {
```

```
        int n, count = 1;
```

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

```
        System.out.println ("enter a number");
```

```
        n = in.nextInt();
```

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

```
        {
```

```
            for (int j=0; j<i; j++)
```

```
            {
```

```
                System.out.print (count + " ");
```

```
                count++;
```

```
            }
```

```
            System.out.print (" \n");
```

```
        }
```

```
    }
```

```
}
```

- ④ Write a C/Java program to accept CIE (out of 50) and SEE (out of 100) of a student and print his/her grade. Use if else ladder.

```
import java.util.Scanner;
class Student
{
    public static void main (String args[]) {
        int see, cie, marks;
        char grade = 'Z';
        System.out.print ("Enter the cie marks (out of 50)\n");
        Scanner in = new Scanner (System.in);
        cie = in.nextInt();
        System.out.print ("Enter the see marks (out of 100)\n");
        see = in.nextInt();
        see = see/2;
        marks = cie + see;
        if (marks > 100) {
            System.out.println ("Invalid marks");
        }
        else if (marks >= 90)
            grade = 'A';
        else if (marks >= 80 && marks < 90)
            grade = 'B';
        else if (marks >= 70 && marks < 80)
            grade = 'C';
        else if (marks >= 60 && marks < 70)
            grade = 'D';
        else if (marks >= 50 && marks < 60)
            grade = 'E';
        else
            grade = 'F';
        System.out.println ("Grade is : " + grade);
    }
}
```

⑥

- 5) Write Java Program to print prime numbers between 2 integers (inclusive). Accept two integers from user.

```
import java.util.Scanner;
class prime {
    public static void main (String args[]) {
        int m, n, flag;
        System.out.print ("enter the first number\n");
        Scanner in = new Scanner (System.in);
        m = in.nextInt();
        System.out.print ("enter the second number\n");
        n = in.nextInt();
        System.out.print ("Prime numbers between two numbers are : \n");
        if (m == 0 || m == 1)
        {
            System.out.print ("1\n");
            m = 2;
        }
        for (int i = m; i <= n; i++) {
            flag = 0;
            for (int j = 2; j <= i/2; j++)
            {
                if (i % j == 0)
                {
                    flag = 1;
                    break;
                }
            }
            if (flag == 0)
            {
                System.out.println(i);
            }
        }
    }
}
```


⑥ Finding Area and Volume of shapes

```
import java.util.Scanner;
class AreaVol {
    public static void main (String args[]) {
        int choice;
        double r, h, a, v;
        Scanner in = new Scanner (System.in);
        System.out.println("The choice of shapes are 1) cylinder 2) cone 3) sphere 4) exit");
        System.out.println("Enter the choice");
        choice = in.nextInt();
        System.out.println("Enter the radius and height");
        r = in.nextInt();
        h = in.nextInt();
        if (choice == 1)
        {
            a = 2 * 3.14 * r * h + 2 * 3.14 * r * r;
            v = 3.14 * r * r * h;
            System.out.println("Area of Cylinder : " + a);
            System.out.println("Volume of Cylinder : " + v);
        }
        else if (choice == 2)
        {
            a = 3.14 * r * r + 3.14 * r * Math.sqrt(h * h + r * r);
            v = 3.14 * r * r * h / 3;
            System.out.println("Area of Cone : " + a);
            System.out.println("Volume of Cone : " + v);
        }
        else if (choice == 3)
        {
            a = 4 * 3.14 * r * r;
            v = 4 / 3 * 3.14 * r * r * r;
        }
    }
}
```

```
System.out.println("Area of Sphere" + a);  
System.out.println("Volume of Sphere" + v);  
}
```

```
else if (choice == 4);  
System.out.println("Invalid Input");  
}
```

```
}
```