

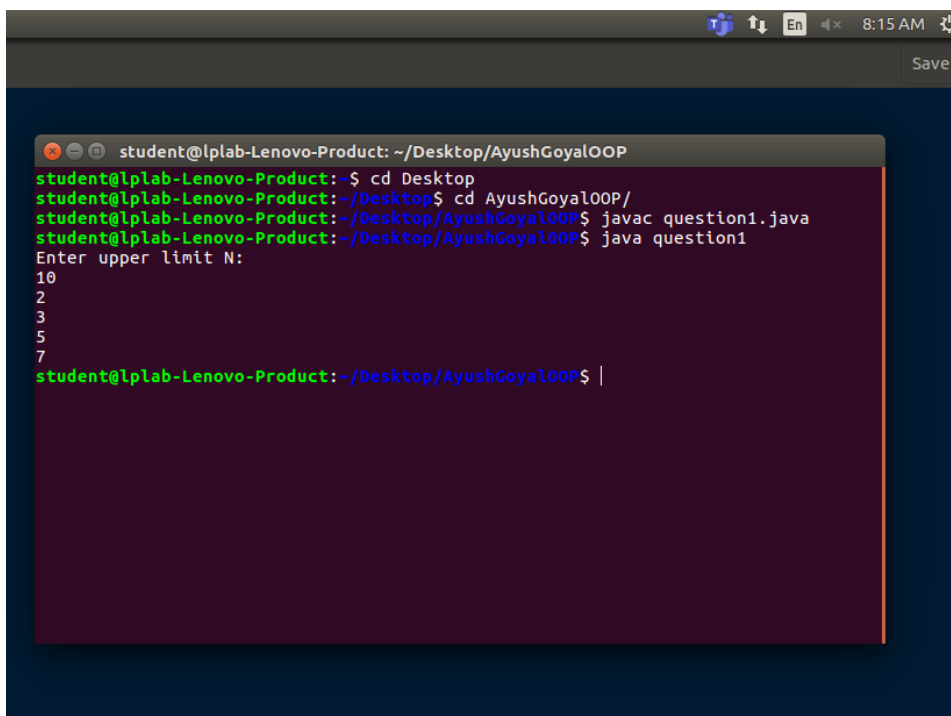
Ayush Goyal
190905522
Section D, Roll 62

Part 1, LAB 1

4 a,b) CODE:

```
import java.util.*;
public class question1{
    static boolean isPrime(int n){
        if(n==0 || n==1){
            return false;
        }
        int prime = 1;
        for(int i=2;i<=(n/2);i++){
            if(n%i == 0){
                prime = 0;
                break;
            }
        }
        if(prime == 1)
            return true;
        else
            return false;
    }
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter upper limit N: ");
        int n = sc.nextInt();
        for(int i=0;i<=n;i++){
            if(isPrime(i))
                System.out.println(i);
        }
    }
}
```

OUTPUT:



```
student@lplab-Lenovo-Product: ~/Desktop/AyushGoyalOOP
student@lplab-Lenovo-Product:~$ cd Desktop
student@lplab-Lenovo-Product:~/Desktop$ cd AyushGoyalOOP/
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ javac question1.java
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ java question1
Enter upper limit N:
10
2
3
5
7
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ |
```

LAB 2

1) CODE:

```
import java.util.*;
public class bubblesort {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the size :");
        int n = sc.nextInt();
        int[] arra = new int[n];
        int[] arrd = new int[n];
        System.out.println("Enter the elements :");
        for(int i = 0; i<n; i++) {
            arra[i] = sc.nextInt();
            arrd[i] = arra[i];
        }
        for(int i = 0; i< n-1 ;i ++) {
            for(int j = i+1; j<n; j++) {
                if(arrd[i]>arrd[j]) {
                    int temp = arrd[j];
                    arrd[j] = arrd[i];
                    arrd[i] = temp;
                }
            }
        }
        for(int i = 0; i< n-1 ;i ++) {
            for(int j = i+1; j<n; j++) {
                if(arrd[i]<arrd[j]) {
                    int temp = arrd[j];
                    arrd[j] = arrd[i];
                    arrd[i] = temp;
                }
            }
        }
        System.out.println("The sorted array is:\nAscending:");
        for(int i = 0; i< n ; i++) {
            System.out.print(arrd[i] + " ");
        }
        System.out.println();
        System.out.println("Descending:");
        for(int i = 0; i<n; i++) {
            System.out.print(arrd[i]+ " ");
        }
    }
}
```

OUTPUT:

```
student@lplab-Lenovo-Product: ~/Desktop/AyushGoyalOOP
student@lplab-Lenovo-Product:~$ cd Desktop
student@lplab-Lenovo-Product:~/Desktop$ cd AyushGoyalOOP/
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ javac bubblesort.java
bubblesort.java:13: error: cannot find symbol
        arrad[i] = arra[i];
        ^
  symbol:   variable arrad
  location: class bubblesort
1 error
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ javac bubblesort.java
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ java bubblesort
Enter the size :
5
Enter the elements :
2 4 77 12 15
The sorted array is:
Ascending:
2 4 12 15 77
Descending:
77 15 12 4 2 student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ |
```

4) CODE :

```
import java.util.Scanner;
class matrix{
    public static int[][] add(int res[][], int a1[][], int a2[][]){
        for(int i=0;i<a1.length;i++){
            for(int j=0;j<a1[i].length;j++){
                res[i][j] = a1[i][j] + a2[i][j];
            }
        }
        return res;
    }

    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        int row,col;
        System.out.println("Enter number of rows: ");
        row = sc.nextInt();
        System.out.println("Enter number of columns: ");
        col = sc.nextInt();
        int mat1[][] = new int[row][col];
        int mat2[][] = new int[row][col];
        int res[][] = new int[row][col];
        System.out.println("Enter elements of first matrix : ");
        for(int i=0;i<row;i++){
            for(int j=0;j<col;j++){
                mat1[i][j] = sc.nextInt();
            }
        }
        System.out.println("Enter elements of second matrix : ");
        for(int i=0;i<row;i++){
            for(int j=0;j<col;j++){
                mat2[i][j] = sc.nextInt();
            }
        }
    }
}
```

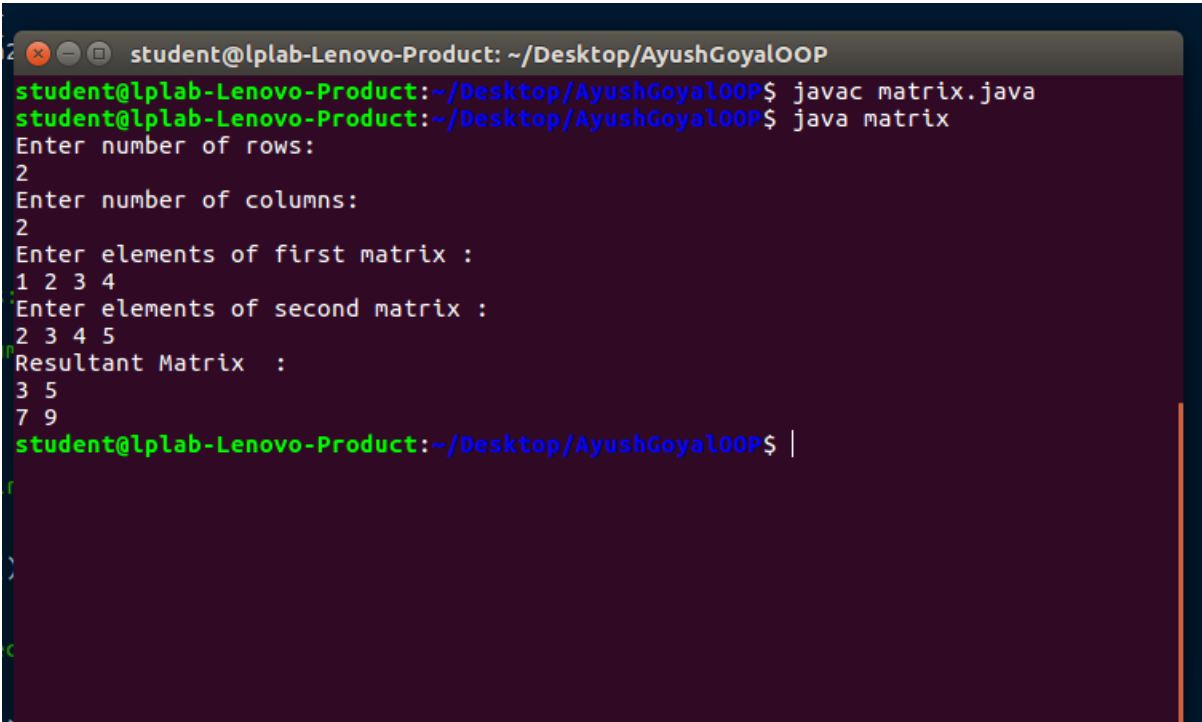
```

        add(res,mat1,mat2);

        System.out.println("Resultant Matrix : ");
        for(int i=0;i<row;i++){
            for(int j=0;j<col;j++){
                System.out.print(res[i][j]+" ");
            }
            System.out.println();
        }
    }
}

```

OUTPUT :



```

student@lplab-Lenovo-Product: ~/Desktop/AyushGoyalOOP
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ javac matrix.java
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ java matrix
Enter number of rows:
2
Enter number of columns:
2
Enter elements of first matrix :
1 2 3 4
Enter elements of second matrix :
2 3 4 5
Resultant Matrix :
3 5
7 9
student@lplab-Lenovo-Product:~/Desktop/AyushGoyalOOP$ |

```