

OOP LAB

Week1

Udeet Mittal
CSE C3
Roll Number 64

1.1.a. Write a method isPrime() to accept one integer parameter and to check whether that parameter is prime or not.

1.b. Using this method, generate first N prime numbers in the main method.

```
import java.util.Scanner;
class lab1
{
public static void main(String args[])
{
    Scanner sc=new Scanner(System.in);
    System.out.println("Enter a number:");
    int n=sc.nextInt();
    int i=2;
    while(n!=0)
    {
        if(isPrime(i)==true){
            System.out.print(i+" ");
            n--;
        }
        i++;
    }
    System.out.println();
}
public static boolean isPrime(int n)
{
    for(int i=2;i<=n/2;i++)
    {
        if(n%i==0)
            return false;
    }
    return true;
}

}
```

```
student@V310Z-000: ~/Udeet_OOPL
File Edit View Search Terminal Help
student@V310Z-000:~/Udeet_OOPL$ javac lab1_q1.java
student@V310Z-000:~/Udeet_OOPL$ java lab1_q1
Enter a number:
5
2 3 5 7 11
student@V310Z-000:~/Udeet_OOPL$
```

2. Arrange the elements in ascending and descending order using Bubble sort method

```
import java.util.Scanner;
class lab1_q2{

public static void main(String[] args) {
Scanner x=new Scanner(System.in);
int n;
System.out.println("Enter the number of elements:");
n=x.nextInt();
int arr[]=new int[n];
System.out.println("Enter the elements:");
for(int i=0;i<n;i++)
    arr[i]=x.nextInt();
for(int i=0;i<n;i++)
{
    for(int j=i+1;j<n;j++)
    {
        if(arr[j]<arr[i])
        {
```

```

                int temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
            }
        }
    }
    System.out.println("Ascending Order:");
    for(int i=0;i<n;i++)
        System.out.print(arr[i]+" ");
    System.out.println();

    for(int i=0;i<n;i++)
    {
        for(int j=i+1;j<n;j++)
        {
            if(arr[i]<arr[j])
            {
                int temp=arr[i];
                arr[i]=arr[j];
                arr[j]=temp;
            }
        }
    }
    System.out.println("Descending Order:");
    for(int i=0;i<n;i++)
        System.out.print(arr[i]+" ");
    System.out.println(n);

}

}

```

```
student@V310Z-000: ~/Udeet_OOPL
File Edit View Search Terminal Help
student@V310Z-000:~/Udeet_OOPL$ javac lab1_q2.java
student@V310Z-000:~/Udeet_OOPL$ java lab1_q2
Enter the number of elements:
5
Enter the elements:
12
34
56
74
123
Ascending Order:
12 34 56 74 123
Descending Order:
123 74 56 34 12
student@V310Z-000:~/Udeet_OOPL$
```

3. Find the addition of two matrices and display the resultant matrix.

```
import java.util.Scanner;
class lab1_q3{

    public static void main(String[] args) {
        Scanner x=new Scanner(System.in);
        int i,j;
        int m,n;
        System.out.println("Enter the dimensions of the matrix:");
        m=x.nextInt();
        n=x.nextInt();
        int a[][]=new int[m][n];
        int b[][]=new int[m][n];
        int c[][]=new int[m][n];
        System.out.println("Enter Matrix 1:");
        for(i=0;i<m;i++)
        {
            for(j=0;j<n;j++)
            {
                a[i][j]=x.nextInt();
            }
        }
        System.out.println();
        System.out.println("Enter Matrix 2:");
        for(i=0;i<m;i++)
```

```

{
    for(j=0;j<n;j++)
    {
        b[i][j]=x.nextInt();
    }
}
System.out.println();
for(i=0;i<m;i++)
{
    for(j=0;j<n;j++)
    {
        c[i][j]=a[i][j]+b[i][j];
    }
}
System.out.println("Sum of the matrices:");
for(i=0;i<m;i++)
{
    for(j=0;j<n;j++)
    {
        System.out.print(c[i][j]+" ");
    }System.out.println();
}
System.out.println();
}
}
}

```

The screenshot shows a terminal window titled "student@V310Z-000: ~/Udeet_OOPL". The terminal displays the following sequence of commands and output:

```

student@V310Z-000:~/Udeet_OOPL$ javac lab1_q3.java
student@V310Z-000:~/Udeet_OOPL$ java lab1_q3
Enter the dimensions of the matrix:
3 2
Enter Matrix 1:
1 2
3 4
5 6
Enter Matrix 2:
1 2
3 4
5 6
Sum of the matrices:
2 4
6 8
10 12
student@V310Z-000:~/Udeet_OOPL$ 

```

The output shows that two 3x2 matrices were entered. Matrix 1 has values [1, 2], [3, 4], [5, 6] and Matrix 2 has values [1, 2], [3, 4], [5, 6]. The resulting sum matrix has values [2, 4], [6, 8], [10, 12].