

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

Fall Semester, 2020-21

CSE1007 – Java Programming Lab

Digital Assingment-1

Roll Number: 19BCE0758

Name: R Narayan

I. Basic Programs

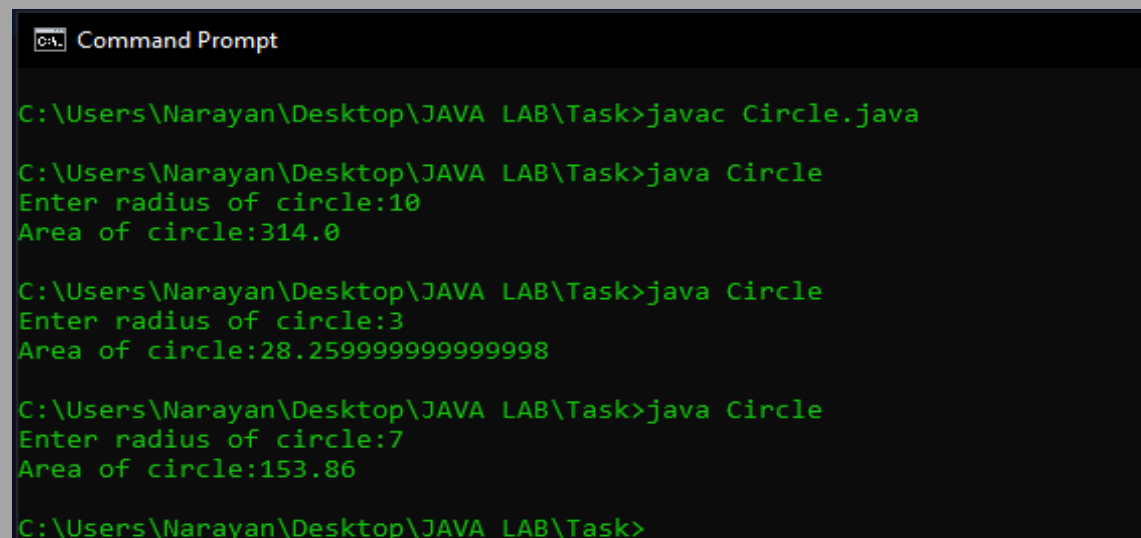
Date – 15/07/2020

1. Read the radius and print the area of a circle
Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;

public class Circle
{
    public static void main(String[] args)
    {
        int r;
        double pi = 3.14, area;
        Scanner s = new Scanner(System.in);
        System.out.print("Enter radius of circle:");
        r = s.nextInt();
        area = pi * r * r;
        System.out.println("Area of circle:"+area);
    }
}
```

Output:



```
C:\Users\Narayan\Desktop\JAVA LAB\Task>javac Circle.java

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Circle
Enter radius of circle:10
Area of circle:314.0

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Circle
Enter radius of circle:3
Area of circle:28.259999999999998

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Circle
Enter radius of circle:7
Area of circle:153.86

C:\Users\Narayan\Desktop\JAVA LAB\Task>
```

2. Read the number and check whether it is divisible by 3 and 5.

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
class Divisibility{
    public static void main(String [] args)
    {
        System.out.println("Enter a number");

        Scanner s = new Scanner(System.in);
        int a;
        a = s.nextInt();
        if(a%15 == 0){
            System.out.println("yes divisible by 3 and 5\n");
        }
        else{
            System.out.println("not divisible by 3 and 5\n");
        }
    }
}
```

Output:

```
C:\Users\Narayan\Desktop\JAVA LAB\Task>javac Divisibility.java

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Divisibility
Enter a number
76
not divisible by 3 and 5

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Divisibility
Enter a number
30
yes divisible by 3 and 5

C:\Users\Narayan\Desktop\JAVA LAB\Task>
```

3. Display Subject Name based on room number. If the user enters 604 then display Java Programming , If the user enters 605 then display Python programming for any other input display Invalid input to the user

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;

class Labroom{
    public static void main(String [] args){
        System.out.println("Enter the lab No");
        Scanner s = new Scanner(System.in);
        int a;
        a = s.nextInt();
        if(a == 604){
            System.out.println("Java Programming Lab");
        }
        else if(a == 605){
            System.out.println("Python programming lab");
        }
        else{
            System.out.println("Invalid Input");
        }
    }
}
```

Output:

```
Command Prompt
C:\Users\Narayan\Desktop\JAVA LAB\Task>javac Labroom.java

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Labroom
Enter the lab No
604
Java Programming Lab

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Labroom
Enter the lab No
605
Python programming lab

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Labroom
Enter the lab No
123
Invalid Input

C:\Users\Narayan\Desktop\JAVA LAB\Task>
```

4. Print the sum of first n numbers. If n is 3 then print the sum of 1+2+3 to the user. Get n from the user

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;

class Series1{
    public static void main(String [] args){
        System.out.println("Enter a No");
        Scanner s = new Scanner(System.in);
        int a,sum=0;
        a = s.nextInt();
        for(int i = 1; i<a+1;i++){
            sum = sum + i;
        }
        System.out.print("Sum is ");
        System.out.println(sum);
    }
}
```

Output:

```

C:\Users\Narayan\Desktop\JAVA LAB\Task>javac Series1.java

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Series1
Enter a No
5
Sum is 15

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Series1
Enter a No
10
Sum is 55

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Series1
Enter a No
20
Sum is 210

C:\Users\Narayan\Desktop\JAVA LAB\Task>
```

5. Print the sum of the series $1^2 + 2^2 + 3^2$ up to n terms

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;

class Series2{
    public static void main(String [] args){
        System.out.println("Enter a No");
        Scanner s = new Scanner(System.in);
        int a,sum=0;
        a = s.nextInt();
        for(int i = 1; i<a+1;i++){
            sum = sum + i*i;
        }
        System.out.print("Sum is ");
        System.out.println(sum);
    }
}
```

Output:

```
C:\Users\Narayan\Desktop\JAVA LAB\Task>javac Series2.java

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Series2
Enter a No
5
Sum is 55

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Series2
Enter a No
10
Sum is 385

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Series2
Enter a No
20
Sum is 2870

C:\Users\Narayan\Desktop\JAVA LAB\Task>
```

6. Print the multiplication table by getting the n from the user.

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
class Mtable{
    public static void main(String [] args)
    {
        System.out.println("Enter the number");
        Scanner s = new Scanner(System.in);
        int a;
        a = s.nextInt();
        for(int i = 1; i<11; i++){
            System.out.print(i);
            System.out.print(" X ");
            System.out.print(a);
            System.out.print(" = ");
            System.out.println(a*i);
        }
    }
}
```

Output:

```
C:\> Command Prompt

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Mtable
Enter the number
3
1 X 3 = 3
2 X 3 = 6
3 X 3 = 9
4 X 3 = 12
5 X 3 = 15
6 X 3 = 18
7 X 3 = 21
8 X 3 = 24
9 X 3 = 27
10 X 3 = 30

C:\Users\Narayan\Desktop\JAVA LAB\Task>java Mtable
Enter the number
7
1 X 7 = 7
2 X 7 = 14
3 X 7 = 21
4 X 7 = 28
5 X 7 = 35
6 X 7 = 42
7 X 7 = 49
8 X 7 = 56
9 X 7 = 63
10 X 7 = 70

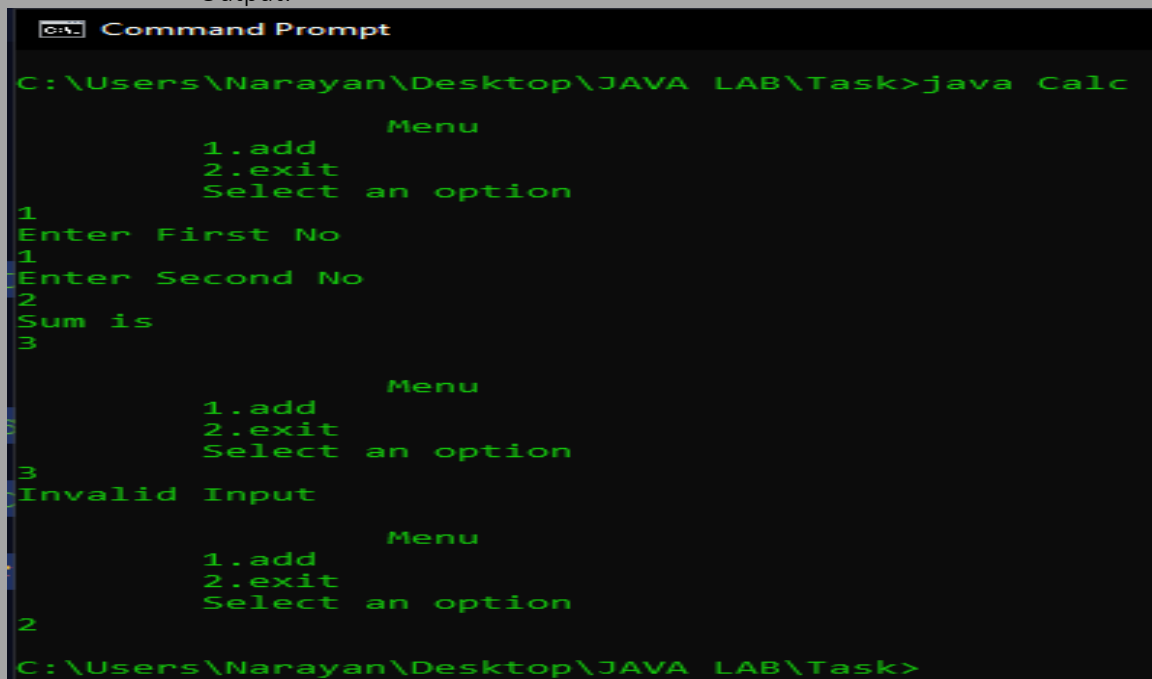
C:\Users\Narayan\Desktop\JAVA LAB\Task>
```

7. Provide the option of adding two numbers to the user until the user wants to exit.

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
class Calc{
    public static void main(String [] args){
        Scanner s = new Scanner(System.in);
        int a = 0;
        do{
            System.out.println("\n\t\tMenu\n\t1.add\n\t2.exit\n\tSelect an option");
            a = s.nextInt();
            if(a == 1){
                int n1,n2;
                System.out.println("Enter First No");
                n1 = s.nextInt();
                System.out.println("Enter Second No");
                n2 = s.nextInt();
                System.out.println("Sum is ");
                System.out.println(n1+n2);
            }
            else if(a != 2){
                System.out.println("Invalid Input");
            }
        }while(a != 2);
    }
}
```

Output:



```
C:\Users\Narayan\Desktop\JAVA LAB\Task>java Calc

          Menu
        1.add
        2.exit
        Select an option
1
Enter First No
1
Enter Second No
2
Sum is
3

          Menu
        1.add
        2.exit
        Select an option
3
Invalid Input

          Menu
        1.add
        2.exit
        Select an option
2

C:\Users\Narayan\Desktop\JAVA LAB\Task>
```

8. Print this pattern for n lines

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;

class Patterns {
    public static void main(String [] args){
        Scanner s = new Scanner(System.in);
        int a = 0;
        do{
            System.out.println("\n\t\tMenu\n1.Pattern a\n2.Pattern b\n3.Patter
n c\n4.Exit\nSelect an option\n");
            a = s.nextInt();
            if(a == 1){
                int n;
                System.out.println("Enter n");
                n = s.nextInt();
                for(int i = 1;i < n+1;i++){
                    for(int j = 0; j < i; j++){
                        System.out.print("*");
                    }
                    System.out.print('\n');
                }
            }
            else if(a == 2){
                System.out.println("Enter n");
                int n;
                n = s.nextInt();
                for(int i = n; i>0; i--){
                    for(int j = 1; j<i+1; j++){
                        System.out.print(j);
                    }
                    System.out.print('\n');
                }
            }
            else if(a == 3){
                System.out.println("Enter n");
                int n;
                n = s.nextInt();
                for(int i = 1; i<n+1; i++){
                    for(int j = 1; j<i+1; j++){
                        System.out.print(j);
                    }
                    System.out.print('\n');
                }
                for(int i = n; i>0; i--){
                    for(int j = 1; j<i+1; j++){
```



```

        System.out.print(j);
    }
    System.out.print('\n');
}
}
else if(a != 4){
    System.out.println("Invalid Choice");
}
}while(a != 4);
}
}

```

Output:

```

C:\> Command Prompt

Menu

1. Pattern a
2. Pattern b
3. Pattern c
4. Exit
Select an option

2
Enter n
5
12345
1234
123
12
1

```

```

C:\> Command Prompt

1
                                     Menu
1.Pattern a
2.Pattern b
3.Pattern c
4.Exit
Select an option

3
Enter n
5
1
12
123
1234
12345
12345
1234
123
12
1

```

```

C:\> Command Prompt

1
                                     Menu
1.Pattern a
2.Pattern b
3.Pattern c
4.Exit
Select an option

5
Invalid Choice

                                     Menu
1.Pattern a
2.Pattern b
3.Pattern c
4.Exit
Select an option

4

C:\Users\Narayan\Desktop\JAVA LAB\Task>

```

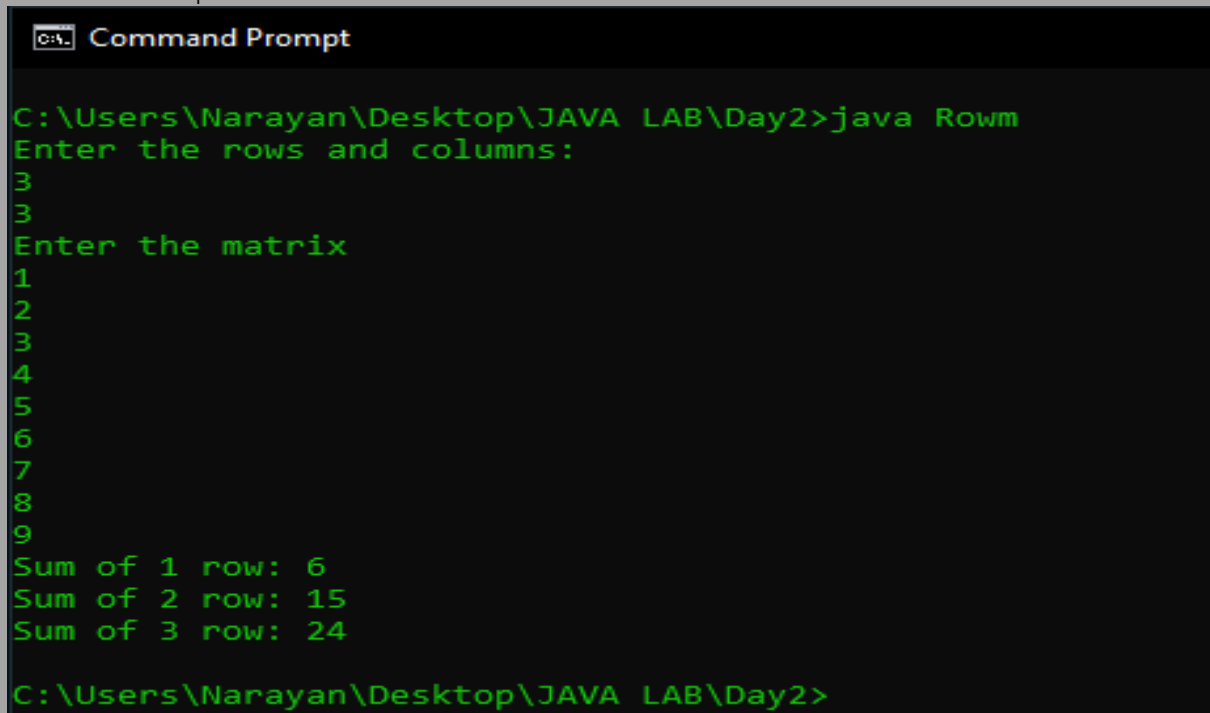
1. Write a java Program to display the sum of rows in a matrix

Code:

```
import java.util.Scanner;

public class Rowm {
    public static void main(String[] args) {
        int r, c, sumRow = 0;
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the rows and columns:");
        r = s.nextInt();
        c = s.nextInt();
        int a[][] = new int[r][c];
        System.out.println("Enter the matrix");
        for (int i = 0; i < r; i++) {
            for (int j = 0; j < c; j++) {
                a[i][j] = s.nextInt();
            }
        }
        for (int i = 0; i < r; i++) {
            sumRow = 0;
            for (int j = 0; j < c; j++) {
                sumRow = sumRow + a[i][j];
            }
            System.out.println("Sum of " + (i + 1) + " row: " + sumRow);
        }
    }
}
```

Output:



```
C:\Users\Narayan\Desktop\JAVA LAB\Day2>java Rowm
Enter the rows and columns:
3
3
Enter the matrix
1
2
3
4
5
6
7
8
9
Sum of 1 row: 6
Sum of 2 row: 15
Sum of 3 row: 24
C:\Users\Narayan\Desktop\JAVA LAB\Day2>
```

2. Write a java Program to display the addition of two matrix
Code:

```
import java.util.Scanner;

public class Addmatrix {
    public static void main(String[] args) {
        int r, c;
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the rows and columns:");
        r = s.nextInt();
        c = s.nextInt();
        int a[][] = new int[r][c];
        int b[][] = new int[r][c];
        int sum[][] = new int[r][c];
        System.out.println("Enter the first matrix");
        for (int i = 0; i < r; i++) {
            for (int j = 0; j < c; j++) {
                a[i][j] = s.nextInt();
            }
        }
        System.out.println("Enter the second matrix");

        for (int i = 0; i < r; i++) {
            for (int j = 0; j < c; j++) {
                b[i][j] = s.nextInt();
            }
        }
        for (int i = 0; i < r; i++) {
            for (int j = 0; j < c; j++) {
                sum[i][j] = b[i][j] + a[i][j];
            }
        }
        System.out.println("Sum of the 2 matrices");
        for (int i = 0; i < r; i++) {
            for (int j = 0; j < c; j++) {
                System.out.print(sum[i][j] + " ");
            }
            System.out.print("\n");
        }
    }
}
```

Output:

```
Command Prompt

C:\Users\Narayan\Desktop\JAVA LAB\Day2>javac Addmatrix.java

C:\Users\Narayan\Desktop\JAVA LAB\Day2>java Addmatrix
Enter the rows and columns:
3
3
Enter the first matrix
1 2 3
4 5 6
7 8 9
Enter the second matrix
1 2 3
1 2 3
1 2 3
Sum of the 2 matrices
2 4 6
5 7 9
8 10 12

C:\Users\Narayan\Desktop\JAVA LAB\Day2>
```

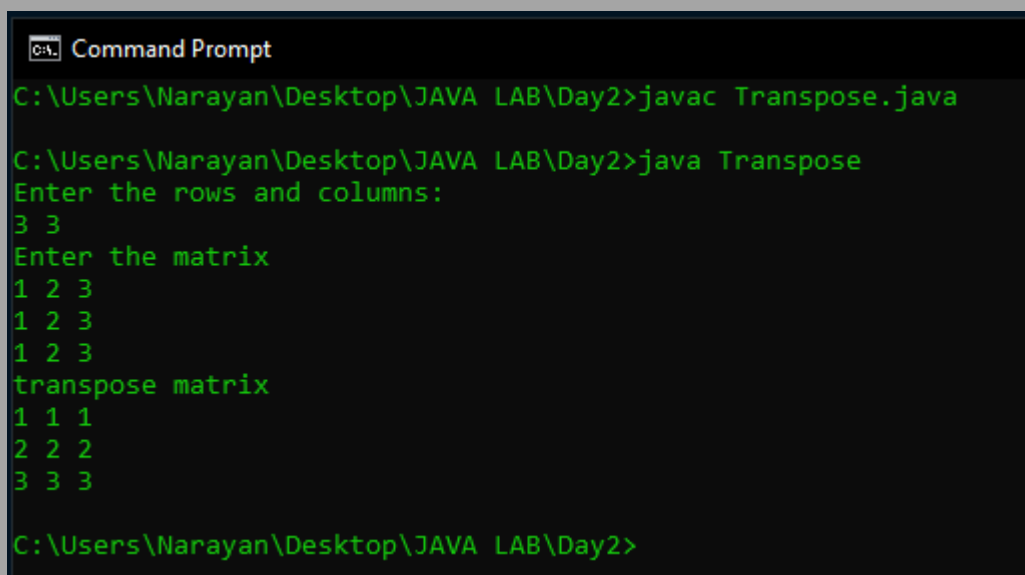
3. Write a java Program to display the transpose of a matrix

Code:

```
import java.util.Scanner;

public class Transpose {
    public static void main(String[] args) {
        int r, c;
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the rows and columns:");
        r = s.nextInt();
        c = s.nextInt();
        int a[][] = new int[r][c];
        System.out.println("Enter the matrix");
        for (int i = 0; i < r; i++) {
            for (int j = 0; j < c; j++) {
                a[i][j] = s.nextInt();
            }
        }
        System.out.println("transpose matrix");
        for (int i = 0; i < r; i++) {
            for (int j = 0; j < c; j++) {
                System.out.print(a[j][i] + " ");
            }
            System.out.println(" ");
        }
    }
}
```

Output:



```
Command Prompt
C:\Users\Narayan\Desktop\JAVA LAB\Day2>javac Transpose.java
C:\Users\Narayan\Desktop\JAVA LAB\Day2>java Transpose
Enter the rows and columns:
3 3
Enter the matrix
1 2 3
1 2 3
1 2 3
transpose matrix
1 1 1
2 2 2
3 3 3
C:\Users\Narayan\Desktop\JAVA LAB\Day2>
```

4. Write a Java program to sort an array of positive integers of an given array, in the sorted array the value of the first element should be maximum, second value should be minimum value, third should be second maximum, fourth second be second minimum and so on.

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
class MaxMin {
    public static void main(String[] args) {
        int n;
        Scanner s = new Scanner(System.in);
        System.out.println("Input the length of the array");
        n = s.nextInt();
        System.out.println("Enter the array");
        int arr[] = new int[n];
        for (int i = 0; i < n; i++) {
            arr[i] = s.nextInt();
        }
        int temp[] = new int[n];
        int small = 0, large = n - 1;
        boolean flag = true;
        for (int i = 0; i < n; i++) {
            for (int j = i; j < n - i - 1; j++) {
                if (arr[j] > arr[j + 1]) {
                    int t = arr[j];
                    arr[j] = arr[j + 1];
                    arr[j + 1] = t;
                }
            }
        }
        for (int i = 0; i < n; i++) {
            if (flag)
                temp[i] = arr[large--];
            else
                temp[i] = arr[small++];
            flag = !flag;
        }
        System.out.println("Modified Array ");
        for (int i = 0; i < n; i++) {
            System.out.print(temp[i] + " ");
        }
    }
}
```

Output:

```
Command Prompt

C:\Users\Narayan\Desktop\JAVA LAB\Day2>javac MaxMin.java

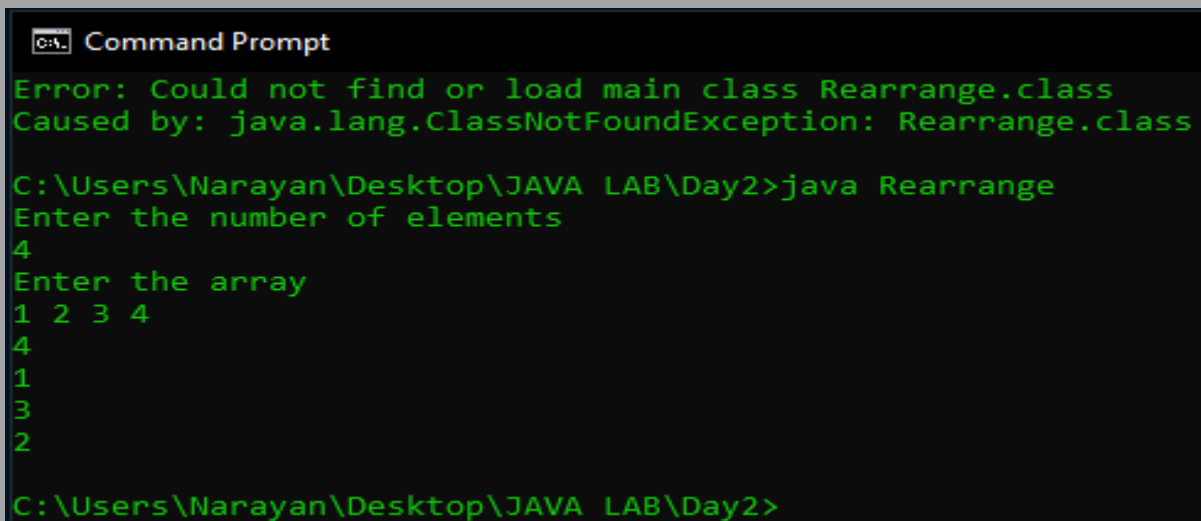
C:\Users\Narayan\Desktop\JAVA LAB\Day2>java MaxMin
Input the length of the array
5
Enter the array
1 2 3 4 5
Modified Array
5 1 4 2 3
C:\Users\Narayan\Desktop\JAVA LAB\Day2>java MaxMin
Input the length of the array
5
Enter the array
12 43 65 12 1
Modified Array
65 12 43 12 1
C:\Users\Narayan\Desktop\JAVA LAB\Day2>
```


5. Write a Java program to separate even and odd numbers of an given array of integers. Put all even numbers first, and then odd numbers.

Code:

```
import java.util.Scanner;
class Rearrange {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the number of elements");
        int n = s.nextInt();
        int l = 0, r = n - 1;
        int arr[] = new int[n];
        int temp[] = new int[n];
        System.out.println("Enter the array");
        for (int i = 0; i < n; i++) {
            arr[i] = s.nextInt();
        }
        for (int i = 0; i < n; i++) {
            if (arr[i] % 2 == 0) {
                temp[l] = arr[i];
                l = l + 1;
            } else {
                temp[r] = arr[i];
                r = r - 1;
            }
        }
        for (int i = 0; i < r; i++) {
            System.out.println(temp[i]);
        }
    }
}
```

Output:



```
C:\> Command Prompt
Error: Could not find or load main class Rearrange.class
Caused by: java.lang.ClassNotFoundException: Rearrange.class

C:\Users\Narayan\Desktop\JAVA LAB\Day2>java Rearrange
Enter the number of elements
4
Enter the array
1 2 3 4
4
1
3
2

C:\Users\Narayan\Desktop\JAVA LAB\Day2>
```

6. Write a Java program to remove the duplicate elements of a given array and return the new length of the array.

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
public class RemDupli {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        int n;
        System.out.println("Enter the length of the array");
        n = s.nextInt();
        int j = 0;
        int arr[] = new int[n];
        System.out.println("Enter the array");
        for (int i = 0; i < n; i++) {
            arr[i] = s.nextInt();
        }
        if (n != 0 && n != 1) {
            int[] temp = new int[n];
            for (int i = 0; i < n - 1; i++) {
                if (arr[i] != arr[i + 1]) {
                    temp[j++] = arr[i];
                }
            }
            temp[j++] = arr[n - 1];
            for (int i = 0; i < j; i++) {
                arr[i] = temp[i];
            }
        }
        System.out.println("The New array is of length " + j);
        for (int i = 0; i < j; i++)
            System.out.print(arr[i] + " ");
    }
}
```

Output:

```
C:\Users\Narayan\Desktop\JAVA LAB\Day2>javac RemDupli.java

C:\Users\Narayan\Desktop\JAVA LAB\Day2>java RemDupli
Enter the length of the array
5
Enter the array
1 2 2 2 3
The New array is of length 3
1 2 3
C:\Users\Narayan\Desktop\JAVA LAB\Day2>java RemDupli
Enter the length of the array
5
Enter the array
1 2 3 4 5
The New array is of length 5
1 2 3 4 5
C:\Users\Narayan\Desktop\JAVA LAB\Day2>
```

7. Write a Java program to find the sum of the two elements of a given array which is equal to a given integer.

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;

public class SumMatch {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter the length of the array");
        int n = s.nextInt();
        int arr[] = new int[n];
        System.out.println("Enter the matrix");
        for (int i = 0; i < n; i++) {
            arr[i] = s.nextInt();
        }
        System.out.println("Enter the sum ");
        int sum = s.nextInt();
        int flag = 0;
        for (int i = 0; i < n; i++) {
            for (int j = i + 1; j < n; j++) {
                if (arr[i] + arr[j] == sum) {
                    flag = 1;
                    System.out.println(arr[i] + " + " + arr[j] + " = " + sum);
                }
            }
        }
        if (flag == 0) {
            System.out.println("No Pairs found");
        }
    }
}
```

Output:

```
Command Prompt

C:\Users\Narayan\Desktop\JAVA LAB\Day2>javac SumMatch.java

C:\Users\Narayan\Desktop\JAVA LAB\Day2>java SumMatch
Enter the length of the array
5
Enter the matrix
5 5 6 4 1
Enter the sum
10
5 + 5 = 10
6 + 4 = 10

C:\Users\Narayan\Desktop\JAVA LAB\Day2>java SumMatch
Enter the length of the array
5
Enter the matrix
1 2 3 4 5
Enter the sum
10
No Pairs found

C:\Users\Narayan\Desktop\JAVA LAB\Day2>
```

8. Write a program to demonstrate the knowledge of students in multidimensional arrays and looping constructs. Eg., If there are 4 batches in BTech - "CSE1007" course, read the count of the slow learners (who have scored <25) in each batch. Tutors should be assigned in the ratio of 1:4 (For every 4 slow learners, there should be one tutor). Determine the number of tutors for each batch. Create a 2-D jagged array with 4 rows to store the count of slow learners in the 4 batches. The number of columns in each row should be equal to the number of groups formed for that particular batch (Eg., If there are 23 slow learners in a batch, then there should be 6 tutors and in the jagged array, the corresponding row should store 4, 4, 4, 4, 4, 3). Use for-each loop to traverse the array and print the details. Also print the number of batches in which all tutors have exactly 4 students.

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;

class SlowLearners {
    public static void main(String arr[]) {
        Scanner s = new Scanner(System.in);
        int no, tut, nbatch;
        System.out.println("Enter the number of batches");
        nbatch = s.nextInt();
        int tot = 0;
        int a[][] = new int[nbatch][];
        for (int i = 0; i < nbatch; i++) {
            System.out.println("Enter the number of slow learners in batch " +
i);

            no = s.nextInt();
            if (no % 4 == 0)
                tut = no / 4;
            else
                tut = no / 4 + 1;
            a[i] = new int[tut];

            for (int j = 0; j < tut; j++) {
                if (no > 4) {
                    a[i][j] = 4;
                    no = no - 4;
                } else {
                    a[i][j] = no;
                    no = 0;
                }
            }
        }
    }
}
```

```

        System.out.println("\n\nThe Contents of Jagged array are");
        for (int i = 0; i < nbatch; i++) {
            for (int n : a[i]) {
                System.out.print(n + " ");
                if (n == 4)
                    tot++;
            }
            System.out.println();
        }
        System.out.println("\n\nThe number of Tutors with 4 students are = " +
tot);
    }
}

```

Output:

```

C:\Users\Narayan\Desktop\JAVA LAB\Day2>javac SlowLearners.java

C:\Users\Narayan\Desktop\JAVA LAB\Day2>java SlowLearners
Enter the number of batches
5
Enter the number of slow learners in batch 0
10
Enter the number of slow learners in batch 1
20
Enter the number of slow learners in batch 2
15
Enter the number of slow learners in batch 3
16
Enter the number of slow learners in batch 4
19

The Contents of Jagged array are
4 4 2
4 4 4 4 4
4 4 4 3
4 4 4 4
4 4 4 4 3

The number of Tutors with 4 students are = 18

C:\Users\Narayan\Desktop\JAVA LAB\Day2>

```

1. Write a java Program to check whether given string is palindrome or not.

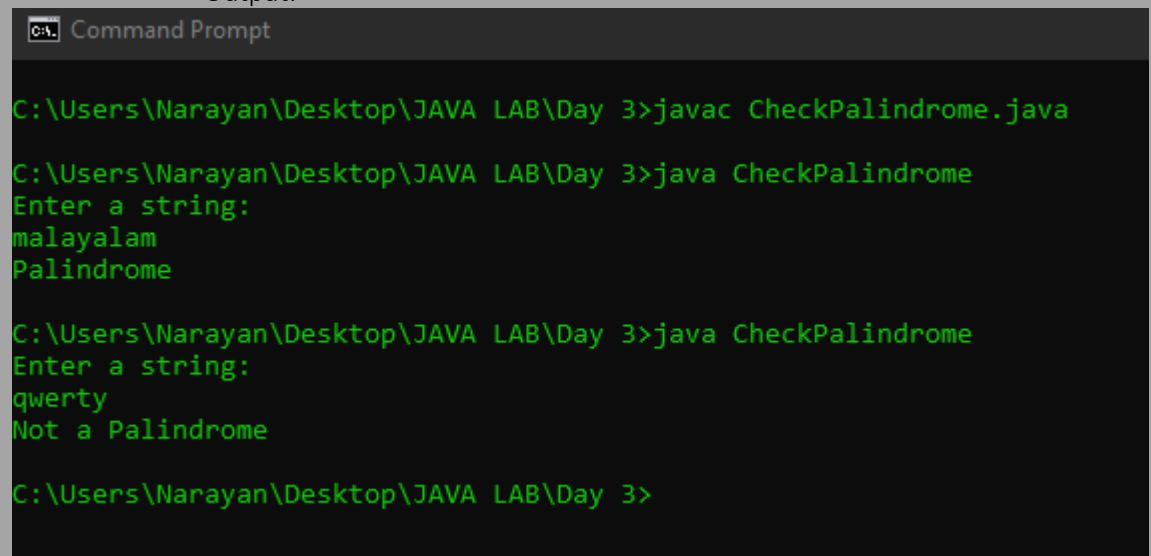
Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
class CheckPalindrome {
    public static void main(String args[]) {
        String str;
        Scanner sc = new Scanner(System.in);

        System.out.println("Enter a string:");
        str = sc.nextLine();

        int n = str.length();
        int flag = 1;
        for (int i = n - 1; i >= 0; i--) {
            if (str.charAt(i) != str.charAt(n - i - 1)) {
                flag = 0;
            }
        }
        if (flag == 0) {
            System.out.println("Not a Palindrome");
        } else {
            System.out.println("Palindrome");
        }
    }
}
```

Output:



```
C:\Users\Narayan\Desktop\JAVA LAB\Day 3>javac CheckPalindrome.java

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>java CheckPalindrome
Enter a string:
malayalam
Palindrome

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>java CheckPalindrome
Enter a string:
qwerty
Not a Palindrome

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>
```


2. Write a java program to sort the names in descending order

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
public class SortNames {
    public static void main(String[] args) {
        int n;
        String temp;
        Scanner s = new Scanner(System.in);
        System.out.print("Enter number of names you want to enter:");
        n = s.nextInt();
        String names[] = new String[n];
        Scanner s1 = new Scanner(System.in);
        System.out.println("Enter all the names:");
        for (int i = 0; i < n; i++) {
            names[i] = s1.nextLine();
        }
        for (int i = 0; i < n; i++) {
            for (int j = i + 1; j < n; j++) {
                if (names[i].compareTo(names[j]) < 0) {
                    temp = names[i];
                    names[i] = names[j];
                    names[j] = temp;
                }
            }
        }
        System.out.println("Sorted Names");
        for (int i = 0; i < n - 1; i++) {
            System.out.println(names[i]);
        }
        System.out.print(names[n - 1]);
    }
}
```

Output:

```
C:\Users\Narayan\Desktop\JAVA LAB\Day 3>javac SortNames.java

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>java SortNames
Enter number of names you want to enter:3
Enter all the names:
abe
kdf
bec
Sorted Names
kdf
bec
abe
C:\Users\Narayan\Desktop\JAVA LAB\Day 3>
```

3. Write a Java program to sort a string array in ascending order.
Input the string : hello world welcome to vit
Expected Output :cdeeehilllmooottvww

Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
class SortString {
    public static void main(String args[]) {
        String str;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a string:");
        str = sc.nextLine();
        int n = str.length();
        char[] ar = str.toCharArray();
        for (int i = 0; i < n - 1; i++) {
            for (int j = 0; j < n - i - 1; j++) {
                if ((int) ar[j] > (int) ar[j + 1]) {
                    char temp = ar[j];
                    ar[j] = ar[j + 1];
                    ar[j + 1] = temp;
                }
            }
        }
        System.out.println("String in Ascending order");
        for (int i = 0; i < n; i++) {
            if (ar[i] != ' ') {
                System.out.print(ar[i]);
            }
        }
    }
}
```

Output:

```
Command Prompt

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>javac SortString.java

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>java SortString
Enter a string:
hello world welcome to vit
String in Ascending order
cdeeehillllmooooorttvww
C:\Users\Narayan\Desktop\JAVA LAB\Day 3>
```

4. Write a java Program to check whether the given two strings are anagram or not.
Code:

```
//19BCE0758
//R Narayan
import java.util.Scanner;
class CheckAnagram {
    public static void main(String args[]) {
        String str1, str2;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a string:");
        str1 = sc.nextLine();
        System.out.println("Enter Second String");
        str2 = sc.nextLine();
        int n1 = str1.length();
        int n2 = str2.length();
        if (n1 == n2) {
            int flag = 1;
            char[] ar1 = str1.toCharArray();
            char[] ar2 = str2.toCharArray();
            for (int i = 0; i < n1 - 1; i++) {
                for (int j = 0; j < n1 - i - 1; j++) {
                    if ((int) ar1[j] < (int) ar1[j + 1]) {
                        char temp = ar1[j];
                        ar1[j] = ar1[j + 1];
                        ar1[j + 1] = temp;
                    }
                    if ((int) ar2[j] < (int) ar2[j + 1]) {
                        char temp = ar2[j];
                        ar2[j] = ar2[j + 1];
                        ar2[j + 1] = temp;
                    }
                }
            }
        }
    }
}
```

```

        for (int i = 0; i < n1; i++) {
            if (ar1[i] != ar2[i]) {
                flag = 0;
            }
        }
        if (flag == 1) {
            System.out.println("Anagrams");
        } else {
            System.out.println("Not Anagram");
        }
    } else {
        System.out.println("Not Anagram");
    }
}
}

```

Output:

```

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>javac CheckAnagram.java

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>java CheckAnagram
Enter a string:
narayan
Enter Second String
nnryaaa
Anagrams

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>java CheckAnagram
Enter a string:
abc
Enter Second String
fee
Not Anagram

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>java CheckAnagram
Enter a string:
qww
Enter Second String
f
Not Anagram

C:\Users\Narayan\Desktop\JAVA LAB\Day 3>

```