CSA-0993 JAVA PROGRAMMING NAME : R. SABARISH REG NO : 192324092

ASSIGNMENT-2

11. MATRIX ADDITION:-

```
import java.util.Scanner;
public class Java{
    public static void main (String[] args){
        Scanner input = new Scanner (System.in);
        int mat1[][] = {{1,2}, {5,3}};
        int mat2[][] = {{2,3}, {4,1}};
        int mat_sum [][] = new int [2][2];
        int len = mat1.length;
        for (int i=0; i<len; i++)
        {
            for (int j=0; j<len; j++)
            {
                mat_sum[i][j] = mat1[i][j] + mat2[i][j];
                System.out.print (mat_sum[i][j]+"\t");
            }
            System.out.println();
        }
    }
```

OUTPUT:-

```
3   5

9   4
```

26-07-24 CSA-0993 JAVA PROGRAMMING NAME: R. SABARISH REG NO: 192324092

11. MATRIX ADDITION:- ASSIGNMENT-2

```
import java.util.Scanner;
public class Java{
    public static void main (String[] args){
        Scanner input = new Scanner (System.in);
        int mat1[][] = {{1,2}, {5,3}};
        int mat2[][] = {{2,3}, {4,1}};
        int mat_sum [][] = new int [2][2];
        int len = mat1.length;
        for (int i=0; i<len; i++)
        {
            for (int j=0; j<len; j++)
            {
                mat_sum[i][j] = mat1[i][j] + mat2[i][j];
                System.out.print (mat_sum[i][j] + "\t");
            }
            System.out.println();
        }
    }
```

OUTPUT:-

```
3   5
9   4
```

12) ASCENDING or DESCENDING

```
import java.util.Scanner;
public class Java{
    public static void main (String [] args){
        Scanner input = new Scanner (System.in);
        String arr[] = {"Banana", "Apple", "Carrot", "Radish", "Jack"};
        int len = arr.length;
        char order = input.next().charAt(0);
        if (order == 'A')
        {
            for(int i=0; i<len ; i++)
            {
                for (int j=i+1; j<arr.length; j++)
                {
                    if (arr[i].compareTo(arr[j])>0){
                        String temp = arr[i];
                        arr[i] = arr[j];
                        arr[j] = temp;
                    }
                }
            }
            System.out.println(Arrays.toString(arr));
        }
    else if (order == 'D')
    {
        for (int i=0; i<len; i++)
        {
            for(int j=i+1; j< arr.length ; j++)
            {
```

```
            if (arr[i].compareTo(arr[j]) < 0)
            {
                String temp = arr[i];
                arr[i] = arr[j];
                arr[j] = temp;
            }
        }
    }

    System.out.println(Arrays.toString(arr));

  }

 }
}
```

OUTPUT:-

13) MATRIX MULTIPLICATION:-

```
import java.util.Scanner;
public class Java {
    public static void main(String[] args) {
        Scanner input = new ~~input~~ Scanner(System.in);
        int r = input.nextInt();
        int c = input.nextInt();
        int mat1[][] = new int[r][c];
        int mat2[][] = new int[r][c];
        for (int i=0; i<r; i++)
        {
```

```
        for (int j=0; j<c; j++)
        {
            mat1[i][j]= input.nextInt();
        }
    }
    for (int i=0;i<r; i++)
    {
        for (int j=0; j<c; j++)
        {
            mat2[i][j] = input.nextInt();
        }
    }
    int sum[][] = new int[r][c];
    for (int i=0; i<r; i++)
    {
        for (int j=0; j<c; j++)
        {
            sum[i][j]=0;
            for (int K=0; K<c; K++)
            {
                sum[i][j] = sum[i][j] + (mat1[i][K] *
                                         mat2[K][j]);
            }
            System.out.println(sum[i][j] + "\t");
        }
        System.out.println(System());
    }
}
}
```

OUTPUT:- 2 2 22 8 8
2 2 22 8 8

14) PRINT THE PATTERN

```
import java.util.Scanner;
public class Java{
    public static void main (String[]args){
        Scanner input = new Scanner(System.in);
        System.out.print("Enter the number to be printed:");
        int x = input.nextInt();
        System.out.print("Max number of line to be printed:");
        int n = input.nextInt();
        for(int i=1; i<=n; i++)
        {
            for(int j=1;j<=1; j++)
            {
                System.out.print(x);
            }
            System.out.println();
        }
        for(int i=n-1; i>=1; i--)
        {
            for(int j=1; j<=i; j++)
            {
                System.out.print(x);
            }
            System.out.println();
        }
    }
}
```

OUTPUT:-

```
Enter the number
to be printed : 6
Max number to
time printed : 3
6
6 6
6 6 6
6 6
6
```

15) PRINT THE SPECIAL CHARACTER

```
import java.util.Scanner;
public class Java{
    public static void main (String[] args){
        Scanner input = new Scanner (System.in);
        String s = input.nextLine();
        int len = s.length();
        char a[] = new char[len];
        int sp=0;
        for (int i=0;i<len;i++)
        {
          a[i] = s.charAt(i);
          if (a[i]>=65 && a[i]<=90 || a[i]>=97 && a[i]<=122||
                  a[i]>=48 && a[i]<=57)
          {
          }
          else
          {
           sp++;
           System.out.print(a[i]);
           }
        }
        System.out.println("\n"+sp);
    }
}
```

OUTPUT:-

@

@

1

16) PRINT ALL THE COMPOSITE NUMBER BETWEEN A AND B :

```
import java.util.Scanner;
public class Java{
    public static void main(String[] args){
        Scanner input = new Scanner(System.in);
        int a= input.nextInt();
        int b= input.nextInt();
        for(int i=a+1; i<=b; i++)
        {
            int c=0;
            for(int j=1; j<=b;j++)
            {
                if(i%j==0)
                c++;
            }
            if(c>2)
            System.out.print(i+" ");
        }
    }
}
```

OUTPUT :-

```
5
10
6 8 9 10.
```

17) PRINT THE INVERTED FULL PYRAMID PATTERN:-

```
import java.util.Scanner;
public class Java {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        for(int i=n; i>=1; i--)
        {
            for(int j=0; j<n-1; j++)
            {
                System.out.print(" ");
            }
            for(int K=1; K<=i; K++)
            {
                System.out.print(" *");
            }
        System.out.println();

    }
}
}
```

OUTPUT:-

4

```
 * * * *
  * * *
   * *
    *
```

18) FACTORIAL:-

```
import java.util.Scanner;
public class Java{
        public static void main{
                Scanner input = new Scanner(System.in);
                int n = input.nextInt();
                int fact=1;
                for(int i=1;i<=n; i++)
                {
                   fact = fact * i;
                }
              System.out.print(fact);
    }
}
```

OUTPUT:-

```
5
120
```

19) PRINT RECTANGLE SYMBOL PATTERN

```
import java.util.Scanner;
public class Java{
        public static void main{
                Scanner input = new Scanner(System.in);
                System.out.print("Rectangle Pattern: ");
                char symbol = scanner.next().charAt(0);
```

```
int rows = 4;
int columns = 4;
for(int i=0; i< rows; i++)
{
  for(int j=0; j< columns; j++)
  {
    System.out.print(symbol + " ");
  }
  System.out.println();
}
}
}
```

OUTPUT :-

Rectangle Pattern 4

```
4 4 4 4
4 4 4 4
4 4 4 4
4 4 4 4
```

20) MEAN, MEDIAN, MODE :-

```
import java.util.Scanner;
public class Java {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        int a[] = {16,18,27,16,23,21,19};
        int len = a.length;
        int sum = 0;
        for (int i=0; i<len; i++)
        {
            sum = sum + a[i];
        }
        int mean = sum / len;
        System.out.println("mean: " + mean);
        for (int i=0; i<len; i++)
        {
            for (int j = i+1; j<len; j++)
            {
                if (a[i] > a[j])
                {
                    int temp = a[i];
                    a[i] = a[j]
                    a[j] = temp;
                }
            }
        }
        for (int i=0; i<len; i++)
        {
            if (len % 2 == 0)
            {
                int mid = len/2;
                System.out.print("Median: "+a[mid-1]);
                break;
```

```
        }
        else
        {
         int mid = (len+1) /2;
         System. out. print (mid);
         System. out. println("median: " + a [mid-1]);
         break;
    }
  }
  for (int i=0; i<len; i++)
  {
     for (int j=i+1; j<len; j++)
     {
       if (a[i] == a[j])
        {
          System . out. println ("mode:" + a[i]);
          break ;
       }
     }
   }
  }
}
```

OUTPUT:-

Mean : 20

Median : 19

Mode : 16