K. Sri Vardhan
192323006
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1) Matrix addition

```
Public star class matrix {
    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 ln = mat1.length;
        for (int i=0; i< ln; i++)
        {
            for (int j=0; j< ln; j++) {
                mat_sum [i][j] = mat1[i][j] + mat2[i][j];
                System.Out Print (mat_sum [i][j]+ "\z")
            }
            System.out.Println();
        }
    }
}
```

Sample Input:

mat = 1 2   mat 2 = 2 3
      5 3   4 1

Output

mat Sum = 3 5
          9 4

2) write a Program to Print rectangle symbol Pattern

```
class opt {
    static void Printrectangle (int n, int w)
    {
        for (int i = 0; i < n; i++)
        {
            system.out.Printth ();
            for (int j = 0; j < w; j++)
            {
                if (i == 0 || i == n-1 || j == 0 || j == w-1)
                {
                    system.out.Printth ("@");
                }
                ure {
                    system.out.Printth (" ");
                }
            }
        }
    }

    Print static void main (string args[])
    {
        int n = 4, w = 5;
        Print rectangle (n, w);
    }
}
```

3) write a program that would sort a list of runs in alphabetical order ascending or descending.

```java
import Java.util.scanner;
class main {
    public static void main (string arg[]){
        scanner input = new scanner(system.in);
        string arr[] = {"Banana", "apple", "carrot"};
        int len = arr.length();
        chat order = input.next().charat(0);
        if (order == 'n'){
            for (int i=0; i<len; i++){
                for (int j=i+1; j<arr.length; j++){
                    if (arr[i].compare(arr[j]) > 0){
                        string tmp = arr[i]
                        arr[i] = arr[j];
                        arr[j] = tmp;
                    }
                }
            }
            system.out.Println (Arrays.tostring(arr))
        }
        else if (
        system.out.Println(array.tostring(ar
    }
}
```

4 Write a Program for matrix multiplication

```java
import java.util.scanner;
class main {
        public static void main (string args[]){
        scanner input = new scanner (system.in);
        int n = input.nextInt();
        int c = input.nextLine();
        int mat1[][] = new int (n)[c];
        int mat2[][] = new int [n][c];
        for (int i =0; i<n; i++)
        {
            for (int j=0; j<c; j++)
            { mat2[i][j] = input.nextint();
            }
        }
        int res[][] = new int [n][c];
        for (int i=0; i<n; i++)
        {
            for (int j =0; j<c; j++)
            res[i][j] =0;
            for (int k=0; k<c; k++)
            { res[i][j] = res[i][j] + [mat1[i][k]*
                                        mat2[k][j]);
            }
            system.out.println (res[i][j]+ "t");
        }
        system.out.println();
}
}
```

} write a program to print the following Pattern

```
: : :
: : :
: :
:
```

```java
Import Java.util scanner;
class main {
    Public static void main (string args[]){
    scanner.
    int x = input, nextline ();
     int n = input. nextline ();
     for (int i=1; i<=n; i++)
         {
          for (int j=1; j<=i; j++)
             {
              system.out. Println (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 ();
            }
    }
```

6 write a Program to Print special character

```java
import Java.util.reader

class special {
    public static void main (string [] args){

        Scanner input = new Scanner(system.in);
        string S = input.nextline();
        int SP = 0;
        for (char ch = S.tochar.Array()){
            if (.characters.isletters or Right(ch)){
                SP++;
                system.out.Printh(ch);
            }
        }
        System.out.Printh(SP);

    }
}
```

7 write a Program to Conforite number)

```java
import Java.util.reaner;
class conforite {
    public static void main (string [] args){
        Scanner input = new Scanner(system.in);
        int a = input.nextline();
        int b = input.nextline();
        for (int i = a+1; i < b; i++){
            if (is conforite(i)){
                system.out.Printhln(i + " ");
            }
        }
    }
}
```

2010 find the factorial of n?

```
class factorial
    public static void main (string [ ] args) {
        int n = input.nextline ();
        int fact = 1;
        for (int i=1; i <= n; fact *= i++)
            system.out.Println (n+ "factorial"
        }
    }
}
```