ARTIFICIAL INTELLIGENCE LAB

ASSIGNMENT – 5

MIN MAX PROBLEM

NAME : PRATHAPANI SATWIKA

REG.NO. : 20BCD7160

CODE :

```
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter value of n:");
        int n = sc.nextInt();
        int a[][] = new int[n][n];
        for (int i = 1; i <= n; i++) {
            System.out.print(i + "        ");
        }
        System.out.println();
        System.out.println();
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= n; j++) {
                int m = j + i;
                if (m % 2 == 0) {
                    a[i - 1][j - 1] = m;
                    System.out.print(a[i - 1][j - 1] + " ");
                } else {
```

```
                a[i - 1][j - 1] = -m;
                System.out.print(a[i - 1][j - 1] + " ");
            }
        }
        System.out.print("   ");
    }
    System.out.println();
    System.out.println();
    System.out.println("Now Maiximizer performs:(E)");
    maxelement(n, a);
}
public static void maxelement(int num, int[][] a) {
    int i = 0;
    int max = 0;
    int[] result = new int[num];
    while (i < num) {
        for (int j = 0; j < a[i].length; j++) {
            if (a[i][j] > max) {
                max = a[i][j];
            }
        }
        result[i] = max;
        max = 0;
        i++;
    }
```

```
        printArray(result);
    }
    public static void printArray(int[] result) {
        for (int i = 0; i < result.length; i++) {
            System.out.print(result[i] + " ");
        }
            int smallest_element = result[0];
            for (int i = 0; i < result.length; i++) {
                {
                    if (result[i] < smallest_element) {
                        smallest_element = result[i];
                    }
                }
            }
        System.out.println();
            System.out.println("After Minimizer performance(O): " +
smallest_element);
        }
    }
```

Main.java

```java
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter value of n:");
        int n = sc.nextInt();
        int a[][] = new int[n][n];
        for (int i = 1; i <= n; i++) {
            System.out.print(i + "        ");
        }
        System.out.println();
        System.out.println();
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= n; j++) {
                int m = j + i;
                if (m % 2 == 0) {
                    a[i - 1][j - 1] = m;
                    System.out.print(a[i - 1][j - 1] + " ");
                } else {
                    a[i - 1][j - 1] = -m;
                    System.out.print(a[i - 1][j - 1] + " ");
                }
            }
            System.out.print("   ");
        }
        System.out.println();
        System.out.println();
        System.out.println("Now Maiximizer performs:(E)");
        maxelement(n, a);
    }
    public static void maxelement(int num, int[][] a) {
        int i = 0;
        int max = 0;
```

```
        int[] result = new int[num];
        while (i < num) {
            for (int j = 0; j < a[i].length; j++) {
                if (a[i][j] > max) {
                    max = a[i][j];
                }
            }
            result[i] = max;
            max = 0;
            i++;
        }
        printArray(result);
    }
    public static void printArray(int[] result) {
        for (int i = 0; i < result.length; i++) {
            System.out.print(result[i] + " ");
        }
            int smallest_element = result[0];
            for (int i = 0; i < result.length; i++) {
                {
                    if (result[i] < smallest_element) {
                        smallest_element = result[i];
                    }
                }
            }
        System.out.println();
            System.out.println("After Minimizer performance(O): " + smallest_element);
        }
    }
```

OUTPUT :

```
Enter value of n:
4
1        2        3        4

2 -3 4 -5    -3 4 -5 6    4 -5 6 -7    -5 6 -7 8

Now Maiximizer performs:(E)
4 6 6 8
After Minimizer performance(O): 4
```

```
Enter value of n:
6
1        2        3        4        5        6

2 -3 4 -5 6 -7    -3 4 -5 6 -7 8    4 -5 6 -7 8 -9    -5 6 -7 8 -9 10
6 -7 8 -9 10 -11    -7 8 -9 10 -11 12

Now Maiximizer performs:(E)
6 8 8 10 10 12
After Minimizer performance(O): 6
```