**ARUSHI RAI  
UFID 58981169**

**NUMBRIX GAME**

This program is a numbrix solver written in Allegro CL (Version 9.0)

REQUIREMENTS:

* Allegro CL 9.0

HOW TO RUN USING ALLEGRO CL 9.0:

* Open Allegro CL 9.0 and type on listener window.

Open the file using

> (setq in-file (open “path\\numbrix.lsp” :direction :input))

Load the file

> (load in-file)

Run the program

> (numbrix)

* After this, the program will provide board options (select one from 1 to 17).
* Used 17 boards of sizes 5\*5, 6\*6, 7\*7, 8\*8, 9\*9, 10\*10, 11\*11, 13\*13 and 15\*15, which are initialized within the numbrix file.
* Board dimensions: for n\*n

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

(n,1)

(2,3)

(1,1)

* Second option is for Manual play (user solves the numbrix) and auto play (computer solves the numbrix).
* MANUAL PLAY:

Input: There are three values that user has to input, row and column of the position and the number. User is allowed to change his moves.

Example: ENTER THE NUMBER AND THE POSITION WHERE YOU WANT TO PLACE THE NUMBER

ROW: COLUMN: NUMBER: 1 2 8

* AUTO PLAY:

Using some heuristics, the computer will solve the numbrix problem. It will display the final AI result. And in the end gives the time taken by it to solve the problem.

* CHECKING THE FINAL PATTERN:

The program will traverse from 1 to (n\*n) checking if the constraints of the game are satisfied or not. Display the board for each number.