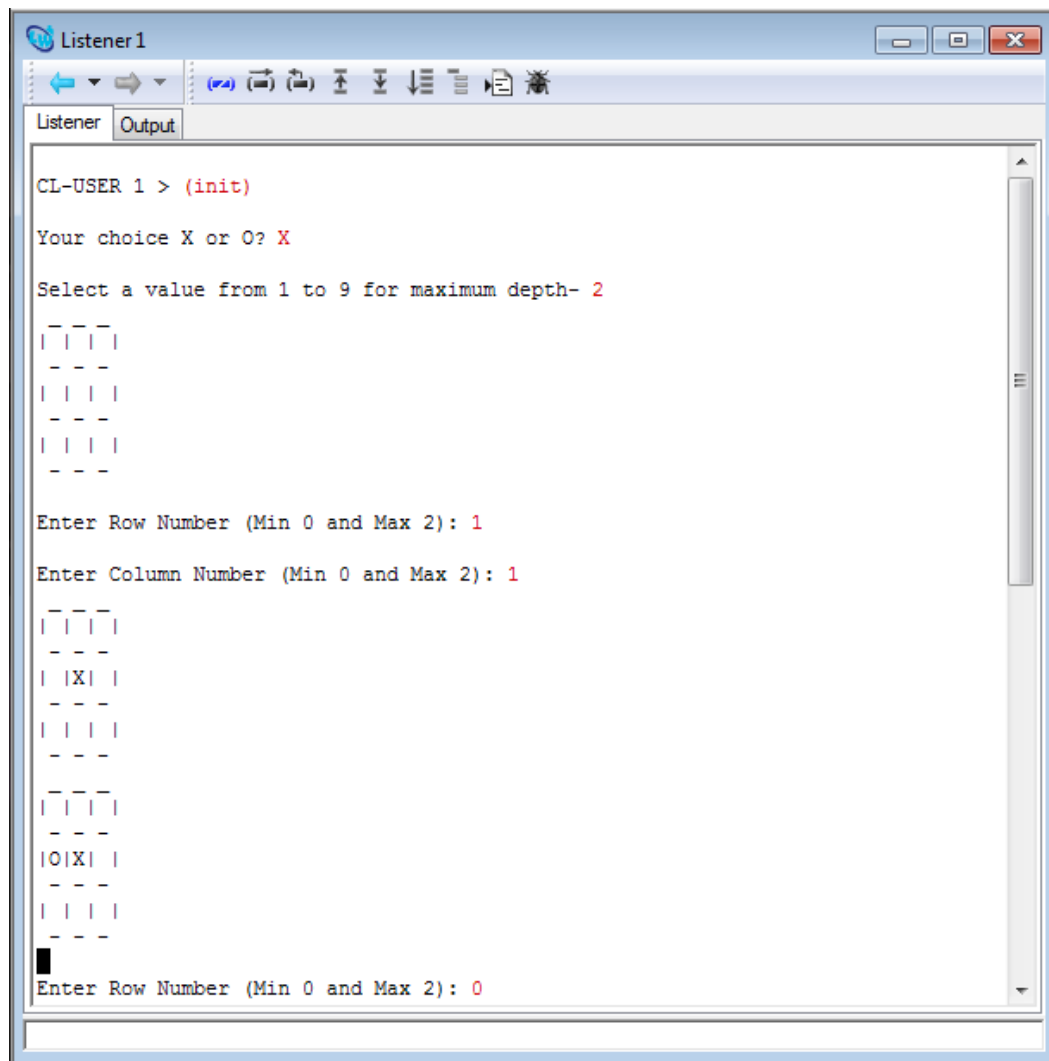# Tic Tac Toe – Sample Run

-Abhishek Kharche

This is the sample run for **Tic Tac Toe in Lisp**. The game starts by calling the **method (init)** by passing no parameters as the parameters will be passed by user on real time basis. The user is then given a **choice** of selecting **X or O** and asked for maximum depth of tree. This is the depth to which the algorithm will generate the nodes of tree for further moves, so it is clear that if you give more depth then algorithm will tend to win or draw and if you give lesser depth then it will be dumb. This program uses **Minimax** search algorithm for performing the moves. **Invalid Move** error is shown in play round 2 and **Vacant Move** error is shown in play round 3.

Play round - 1

```
CL-USER 1 > (init)

Your choice X or O? X

Select a value from 1 to 9 for maximum depth- 2

 _ _ _
| | | |
 - - -
| | | |
 - - -
| | | |
 - - -

Enter Row Number (Min 0 and Max 2): 1

Enter Column Number (Min 0 and Max 2): 1

 _ _ _
| | | |
 - - -
| |X| |
 - - -
| | | |
 - - -

 _ _ _
| | | |
 - - -
|O|X| |
 - - -
| | | |
 - - -

Enter Row Number (Min 0 and Max 2): 0
```
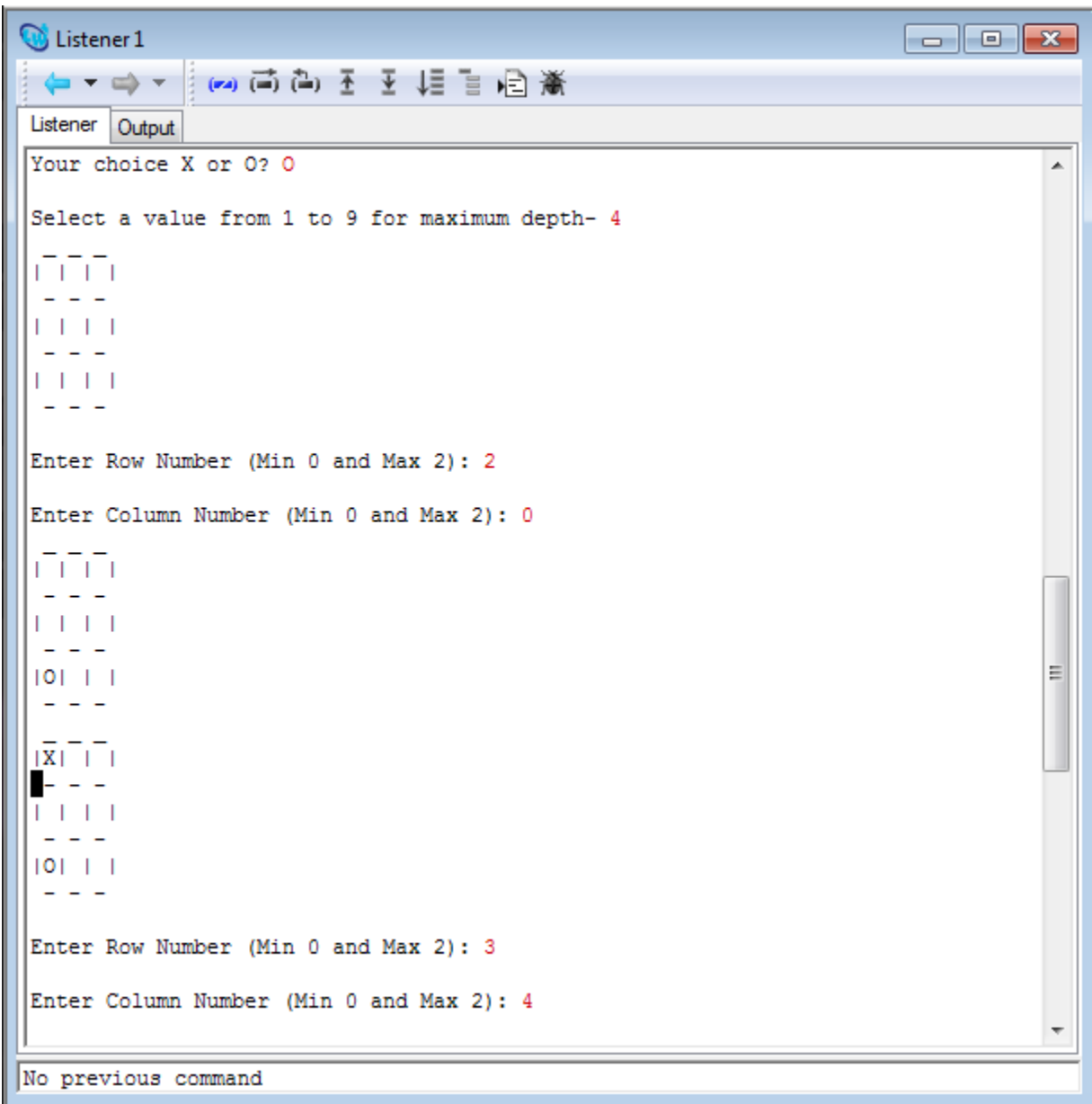
```
Listener 1                                               [_][□][X]

Listener  Output

Enter Row Number (Min 0 and Max 2): 0

Enter Column Number (Min 0 and Max 2): 0

 _ _ _
|X| | |
 - - -
|O|X| |
 - - -
| | | |
 - - -

 _ _ _
|X| | |
 - - -
|O|X|O|
 - - -
| | | |
 - - -

Enter Row Number (Min 0 and Max 2): 2

Enter Column Number (Min 0 and Max 2): 2

 _ _ _
|X| | |
 - - -
|O|X|O|
 - - -
| | |X|
 - - -
User Wins
"User Wins"

CL-USER 2 >
```

This is the condition where **USER WINS**

Depth - 2

Play round - 2

```
Listener 1                                    [ _ ][ □ ][ ✕ ]

 ⬅ ▾   ➡ ▾    (📷) 📑 📑 ⤒ ⤓ ⬇☰ ☰ ▸📄 🐞

 Listener  Output

 Your choice X or O? O                                    ▲

 Select a value from 1 to 9 for maximum depth- 4

  _ _ _
 | | | |
  - - -
 | | | |
  - - -
 | | | |
  - - -


 Enter Row Number (Min 0 and Max 2): 2

 Enter Column Number (Min 0 and Max 2): 0

  _ _ _
 | | | |
  - - -
 | | | |
  - - -
 |O| | |
  - - -

  _ _ _
 |X| | |
 ▮- - -
 | | | |
  - - -
 |O| | |
  - - -

 Enter Row Number (Min 0 and Max 2): 3

 Enter Column Number (Min 0 and Max 2): 4        ▼

 No previous command
```
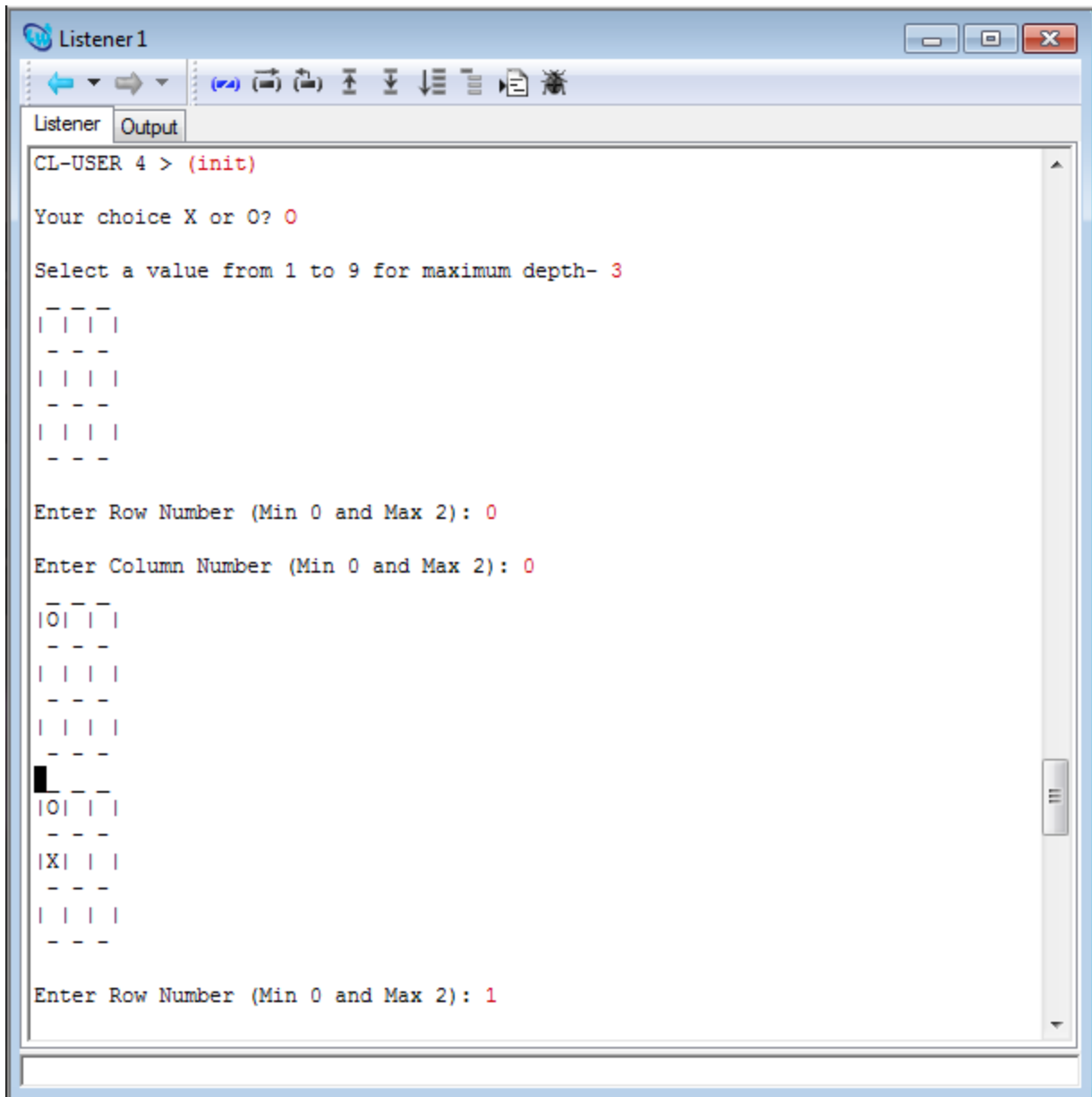
```
Listener 1                                                    [ _ ] [ □ ] [ ✕ ]

 ← ▼  ⇒ ▼    (⌐) ⇥ ⇤ ⊼ ⊥ ⊨ ⊨ ⊨ ⊨

Listener  Output

Enter Row Number (Min 0 and Max 2): 3

Enter Column Number (Min 0 and Max 2): 4

Invalid move
Enter Row Number (Min 0 and Max 2): 1

Enter Column Number (Min 0 and Max 2): 0

 _ _ _
|X| | |
 - - -
|O| | |
 - - -
|O| | |
 - - -

 _ _ _
|X| |X|
 - - -
|O| | |
 - - -
|O| | |
█- - -

Enter Row Number (Min 0 and Max 2): 1

Enter Column Number (Min 0 and Max 2): 1

 _ _ _
|X| |X|
 - - -
|O|O| |
 - - -
|O| | |
 - - -

 _ _ _
|X|X|X|
 - - -
|O|O| |
 - - -
|O| | |
 - - -
Computer Wins
"Computer Wins"

CL-USER 3 >

No previous command
```

This is the condtion where **Computer Wins – Depth - 4**

Play round - 3

```
Listener 1                                    [_] [□] [X]

[←]▼ [→]▼   [▨] [▤] [▥] [⊼] [⊻] [⊫] [⊟] [▸⊟] [※]

Listener  Output

CL-USER 4 > (init)

Your choice X or O? O

Select a value from 1 to 9 for maximum depth- 3
 _ _ _
| | | | |
 - - -
| | | | |
 - - -
| | | | |
 - - -

Enter Row Number (Min 0 and Max 2): 0

Enter Column Number (Min 0 and Max 2): 0

 _ _ _
|O| | | |
 - - -
| | | | |
 - - -
| | | | |
 - - -
█ _ _
|O| | | |
 - - -
|X| | | |
 - - -
| | | | |
 - - -

Enter Row Number (Min 0 and Max 2): 1
```

```
Listener 1                                                 [ _ ][ □ ][ X ]

 ←  ▼    ➡  ▼      (📷) 🗐 🗐 ⬆ ⬇ ⬇📋 🗒 📑 🐞

 Listener  Output

Enter Row Number (Min 0 and Max 2): 1

Enter Column Number (Min 0 and Max 2): 0

Please select vacant position
Enter Row Number (Min 0 and Max 2): 2

Enter Column Number (Min 0 and Max 2): 0

 _ _ _
|O| | |
 - - -
|X| | |
 - - -
|O| | |
 - - -


 _ _ _
|O| | |
 - - -
|X|X| |
 - - -
|O| | |
 - - -

Enter Row Number (Min 0 and Max 2): 1

Enter Column Number (Min 0 and Max 2): 2

 _ _ _
|O| | |
 - - -
|X|X|O|
 - - -
|O| | |
 - - -
```
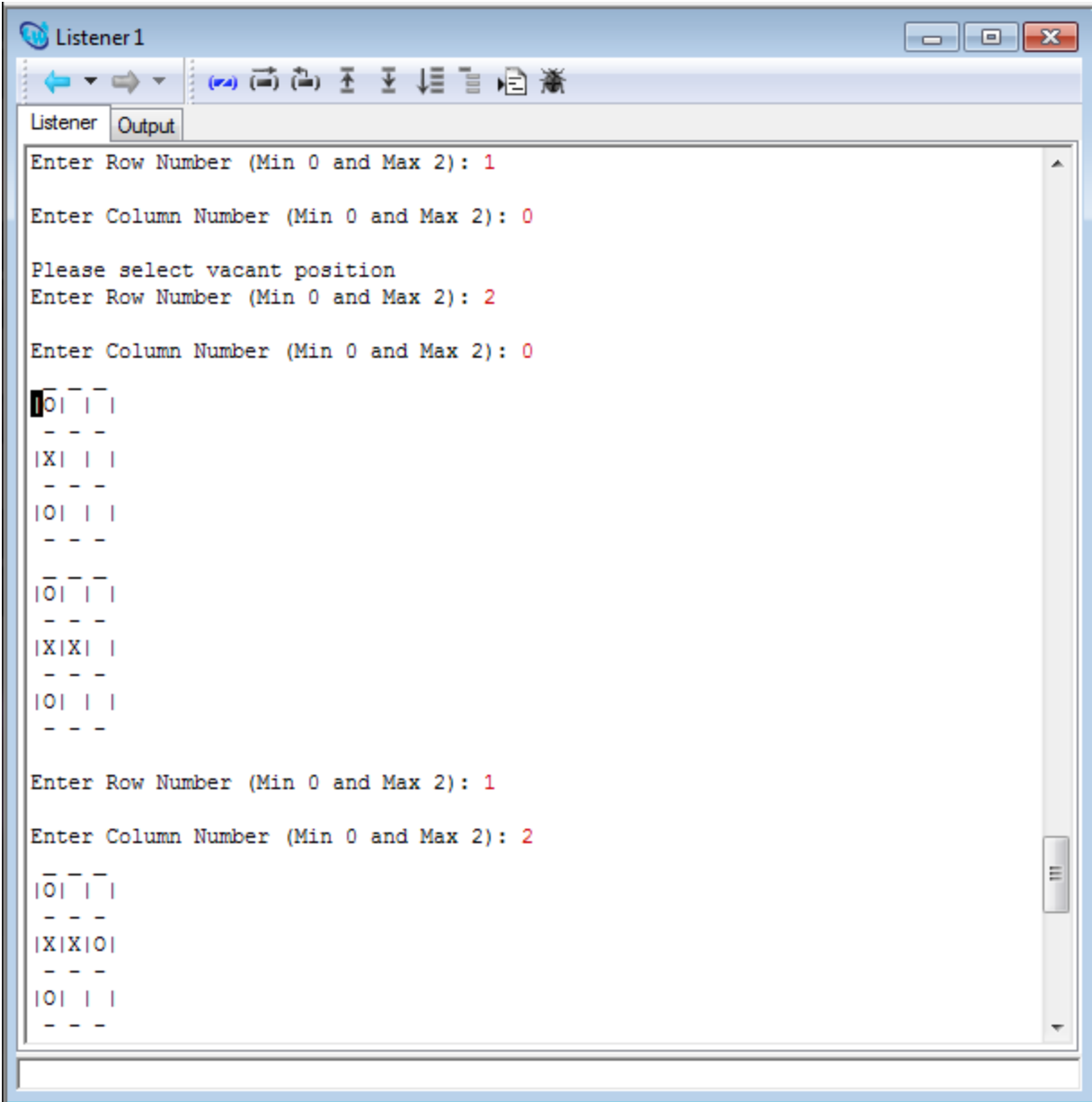
```
 _  _  _
|O|  |X|
 -  -  -
|X|X|O|
 -  -  -
|O|  |  |
 -  -  -

Enter Row Number (Min 0 and Max 2): 0

Enter Column Number (Min 0 and Max 2): 1
 _  _  _
|O|O|X|
 -  -  -
|X|X|O|
 -  -  -
|O|  |  |
 -  -  -


 _  _  _
|O|O|X|
 -  -  -
|X|X|O|
 -  -  -
|O|X|  |
 -  -  -

Enter Row Number (Min 0 and Max 2): 2

Enter Column Number (Min 0 and Max 2): 2
 _  _  _
|O|O|X|
 -  -  -
|X|X|O|
 -  -  -
|O|X|O|
 -  -  -
DRAW

CL-USER 5 >
```

This is the condition where game **drawn**

Depth – 3