



**FACULTY OF SCIENCE, TECHNOLOGY AND ENVIRONMENT**

**SCHOOL OF COMPUTING, INFORMATION AND MATHEMATICAL  
SCIENCES**

**CS310: COMPUTER NETWORKS**

**ASSIGNMENT 1 – WEB BASED CROSS & NAUGHT**

**USAGE & TEST REPORT**

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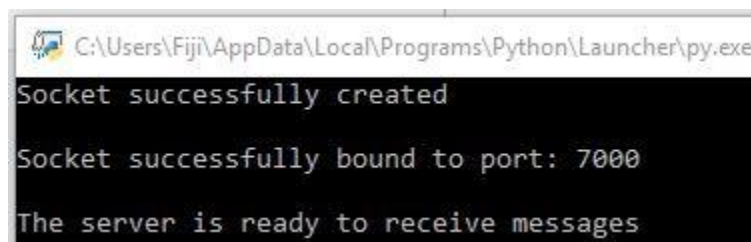
## USAGE REPORT

### Things To Note:

- Language used: Python
- Version: 3.6.3
- Port number: 7000

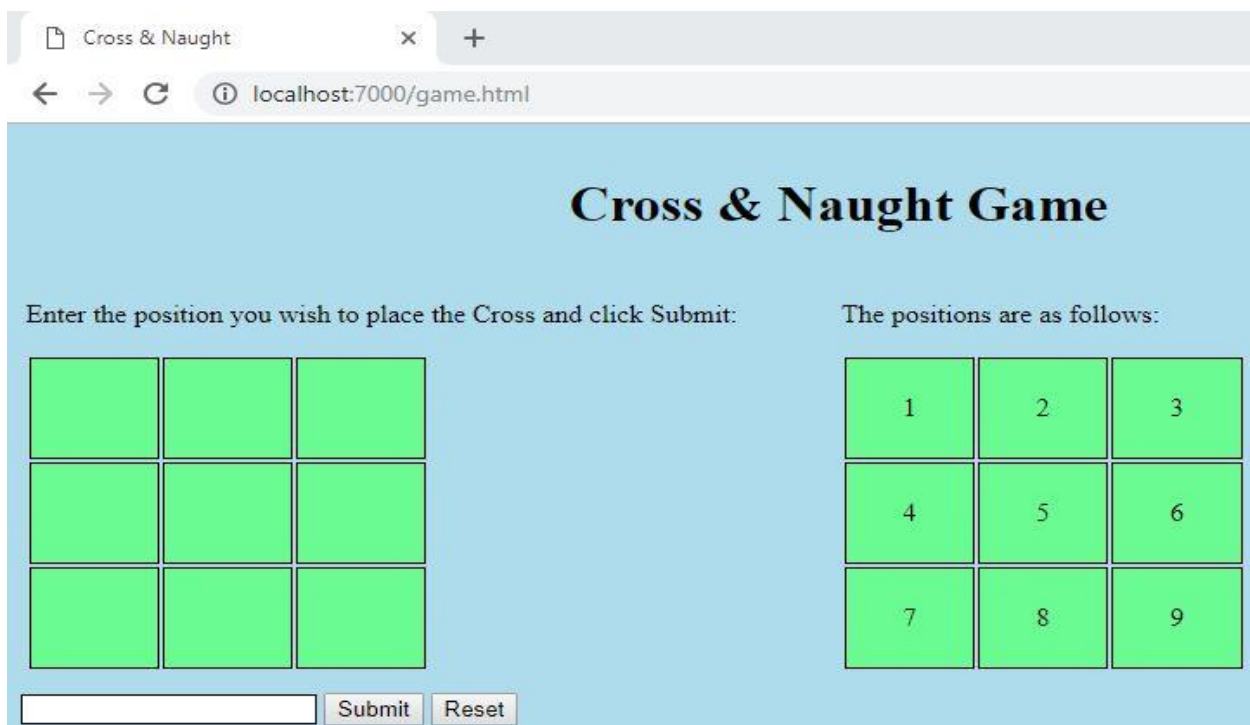
### How To Run:

1. Double click 'server.py' to open. If opened using IDLE, press F5. The following screen should appear.



```
C:\Users\Fiji\AppData\Local\Programs\Python\Launcher\py.exe
Socket successfully created
Socket successfully bound to port: 7000
The server is ready to receive messages
```

2. Open a web browser and type 'http://localhost:7000/game.html' in the address bar (just the address, not including the quotes "). 'server.py' and 'game.html' MUST be in the same directory. The following screen should appear.



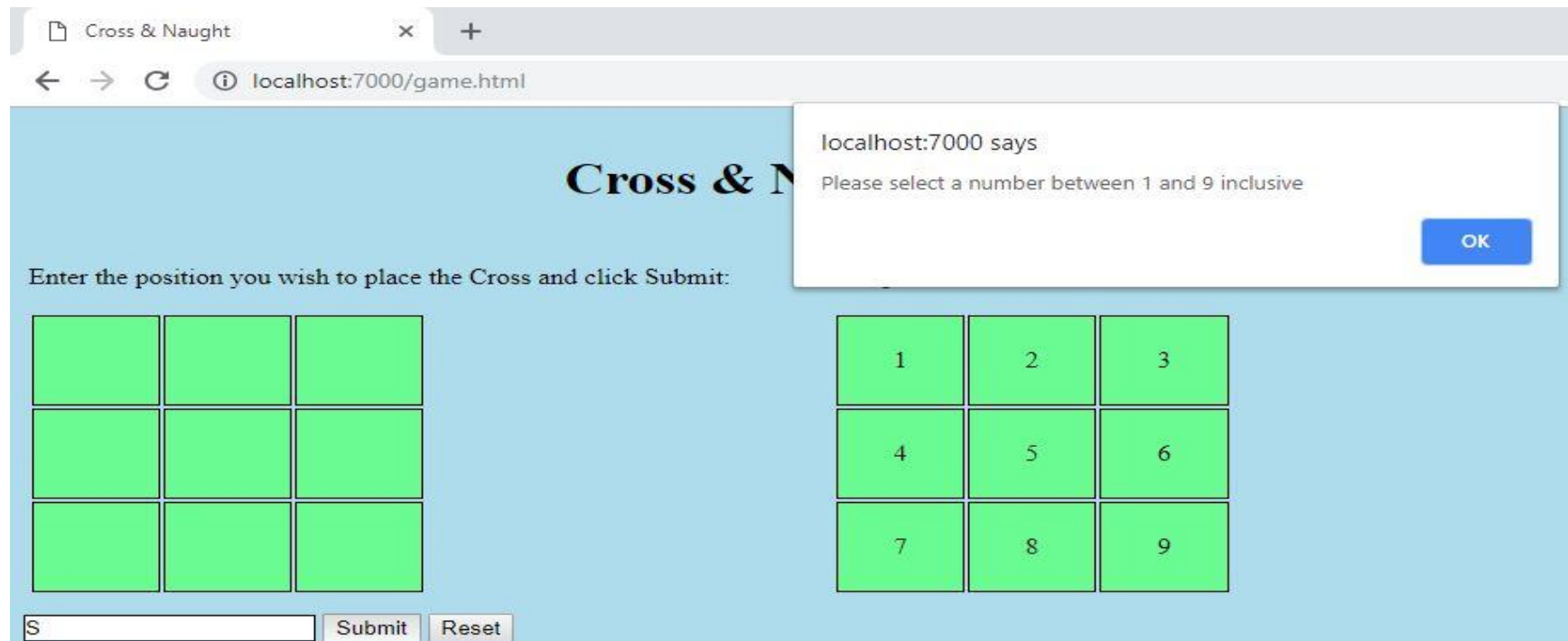
3. Play the game by following the instructions.

## TEST REPORT

Test Case 1: Entering a character

Expected result: Input shouldn't be accepted. Alert user to enter a number between 1 and 9

Actual result:

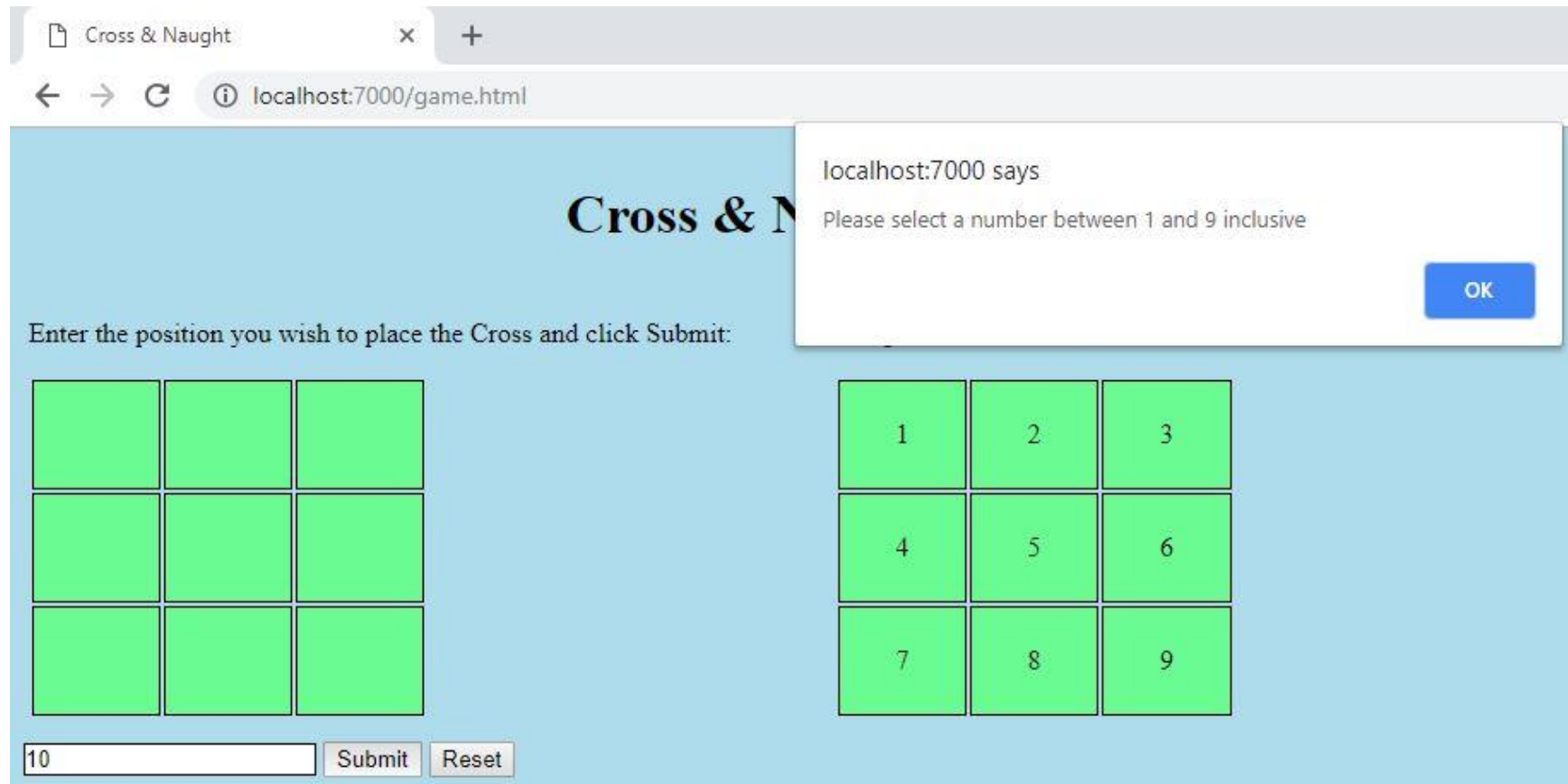


✓ Test case passed

Test Case 2: Entering a number greater than 9

Expected result: Input shouldn't be accepted. Alert user to enter a number between 1 and 9

Actual result:

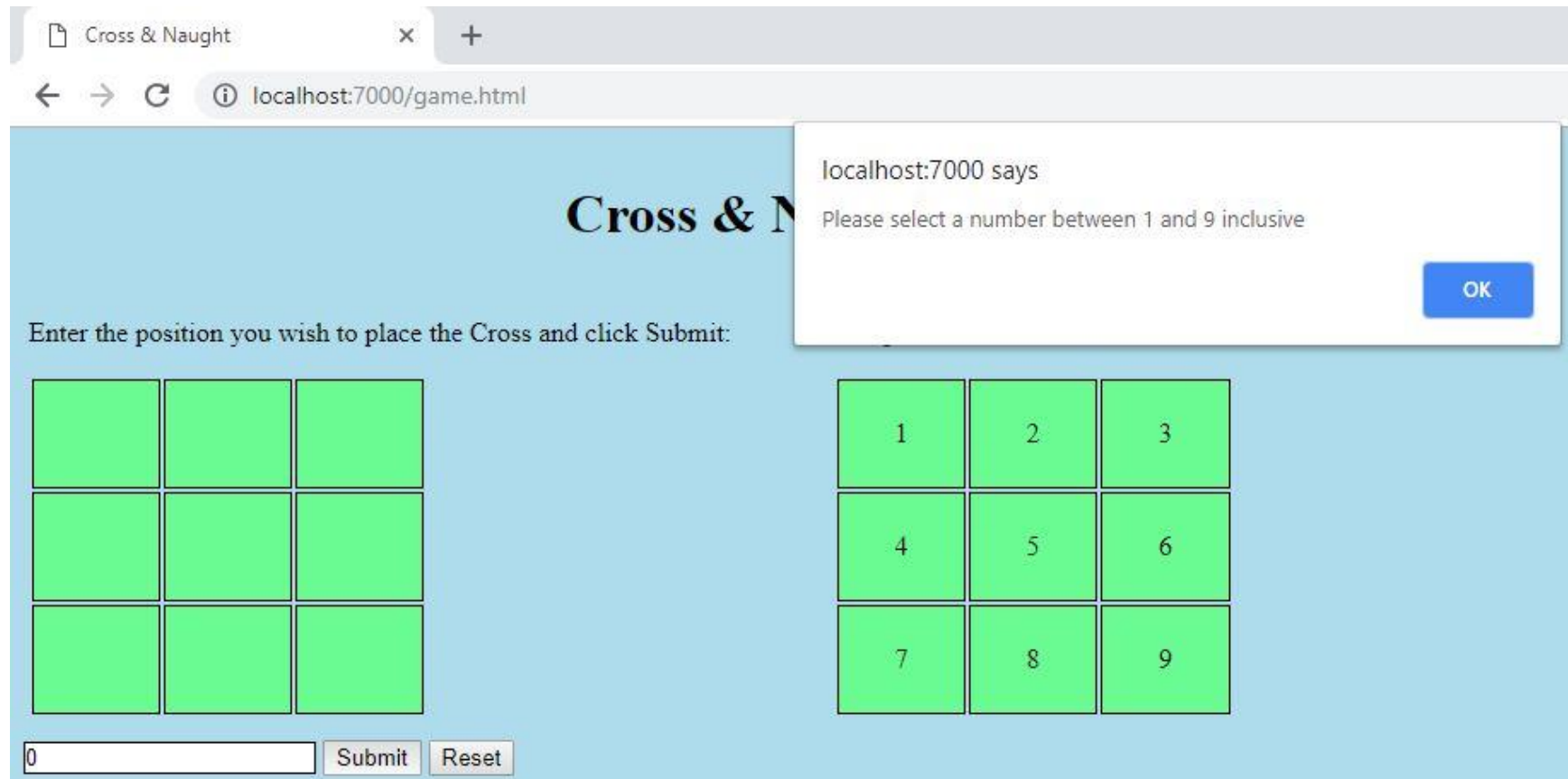


✓ Test case passed

Test Case 3: Entering a number less than 1

Expected result: Input shouldn't be accepted. Alert user to enter a number between 1 and 9

Actual result:

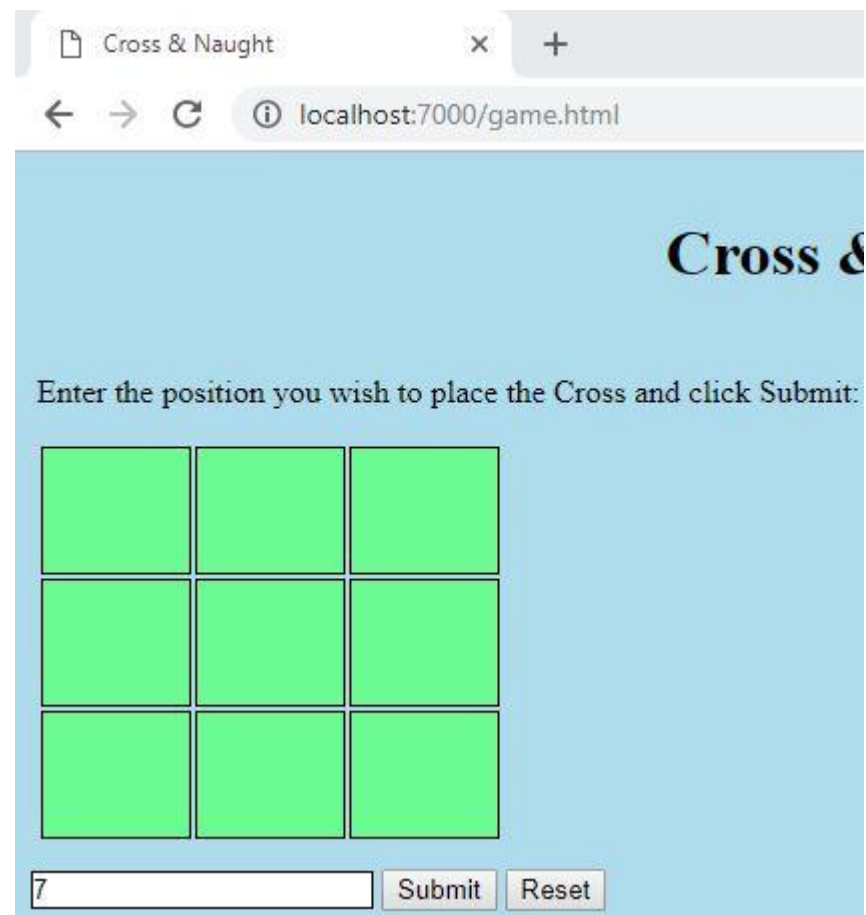
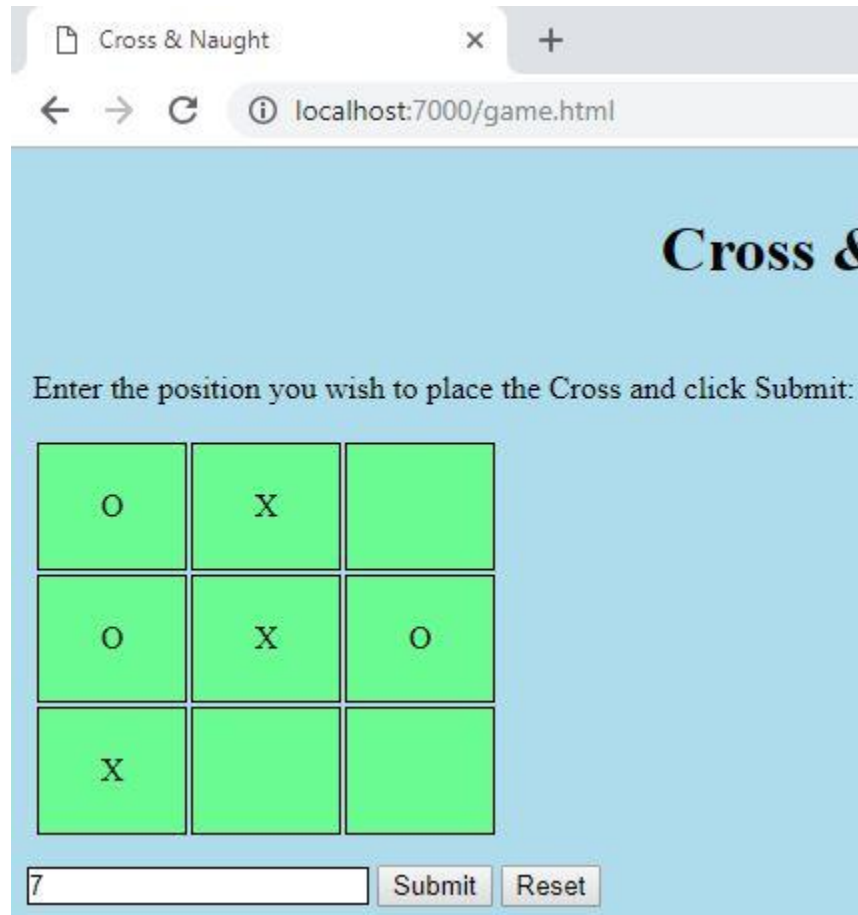


✓ Test case passed

Test Case 4: Clicking Reset button to restart the game

Expected result: Board should clear.

Actual result:

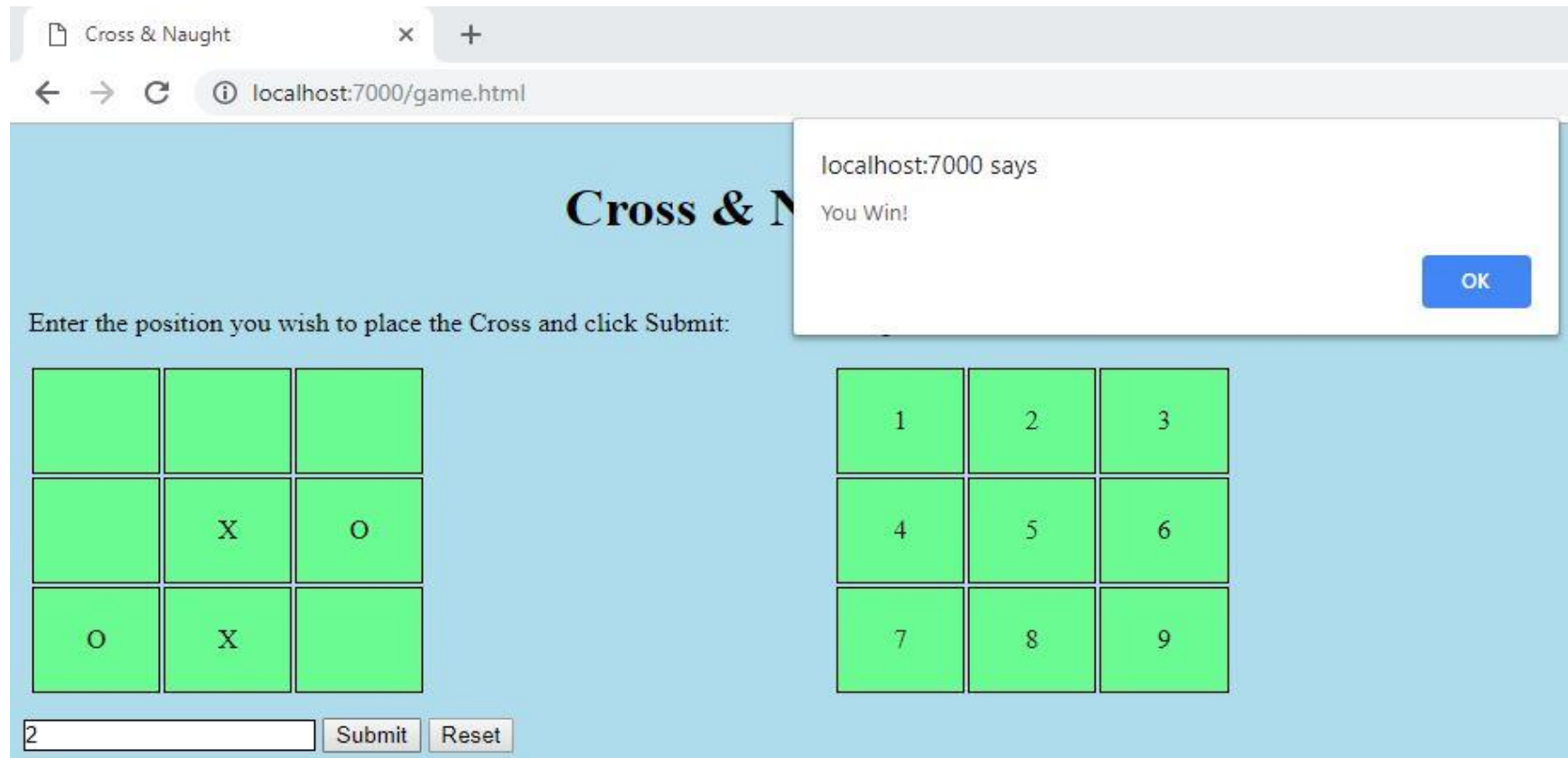


✓ Test case passed

Test Case 5: Entering a winning combination

Expected result: Message to notify client that he/she has won. Board should clear after.

Actual result:



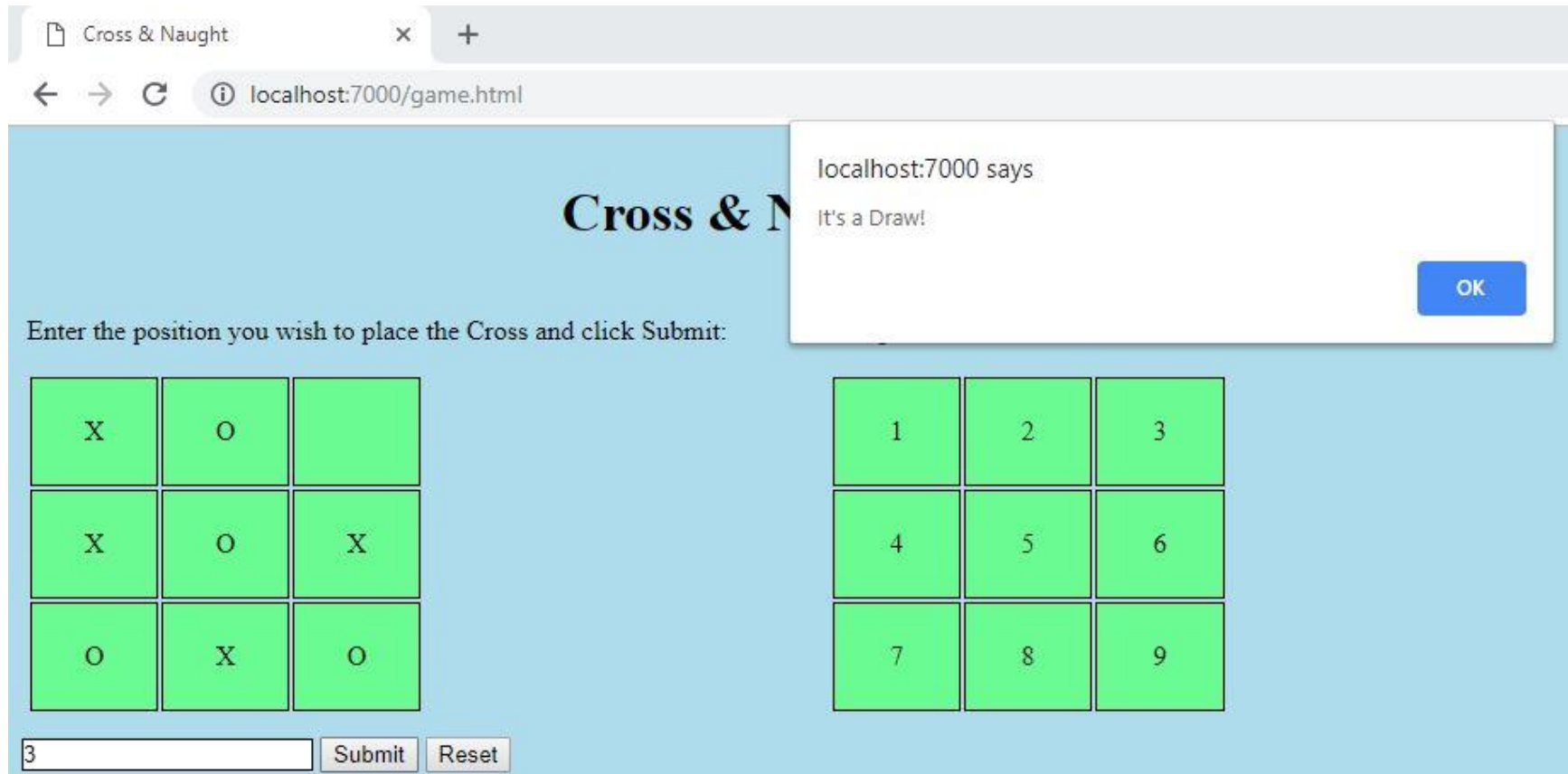
Note: The client's final position was submitted but not displayed on the board

✓ Test case passed

### Test Case 6: Testing for a Draw

Expected result: Message to notify client that the game is a draw. Board should clear after.

Actual result:



Note: The final position was submitted but not displayed on the board

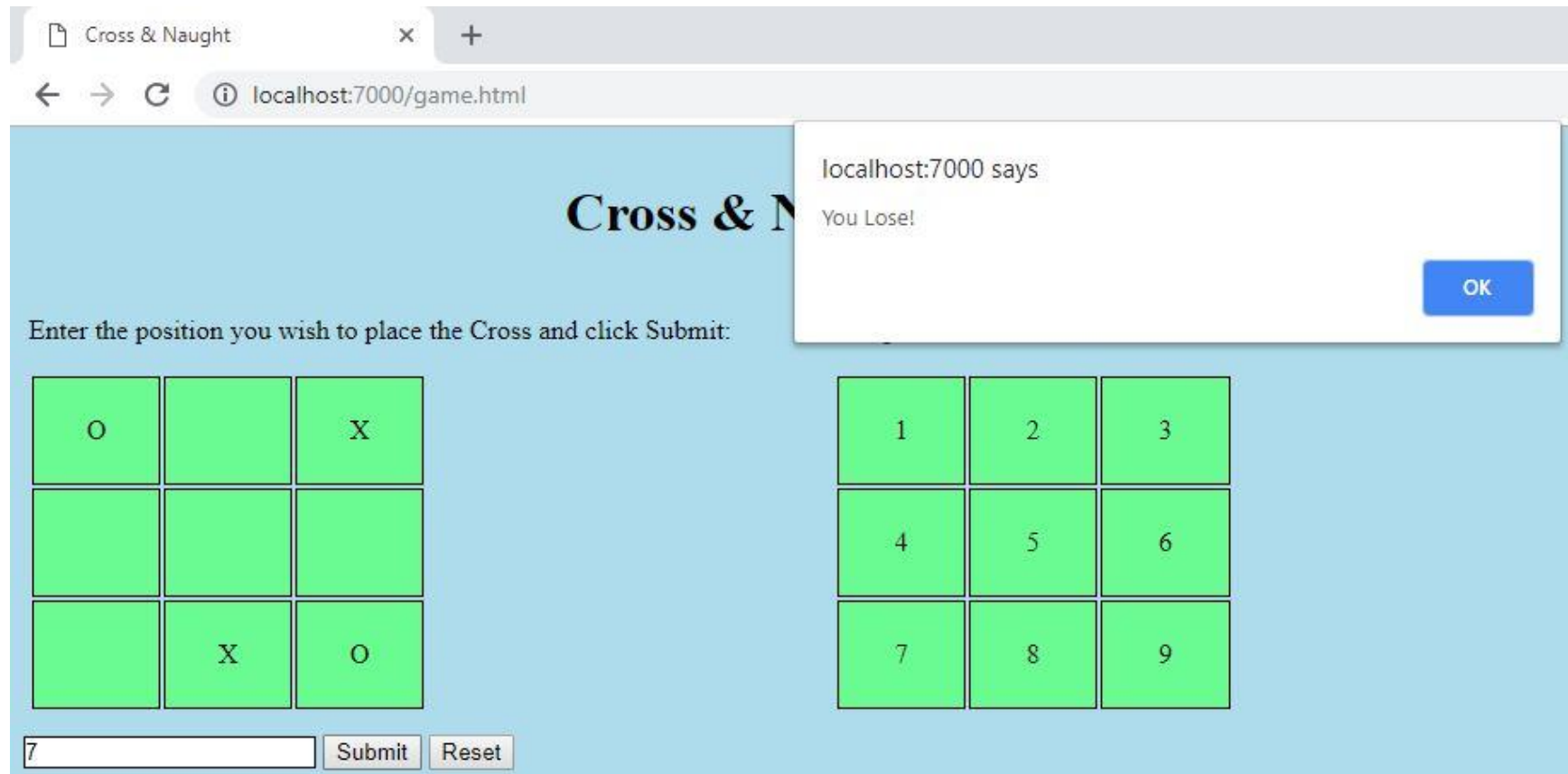
✓ Test case passed



### Test Case 7: Testing for a Loss

Expected result: Message to notify client that he/she lost. Board should clear after.

Actual result:



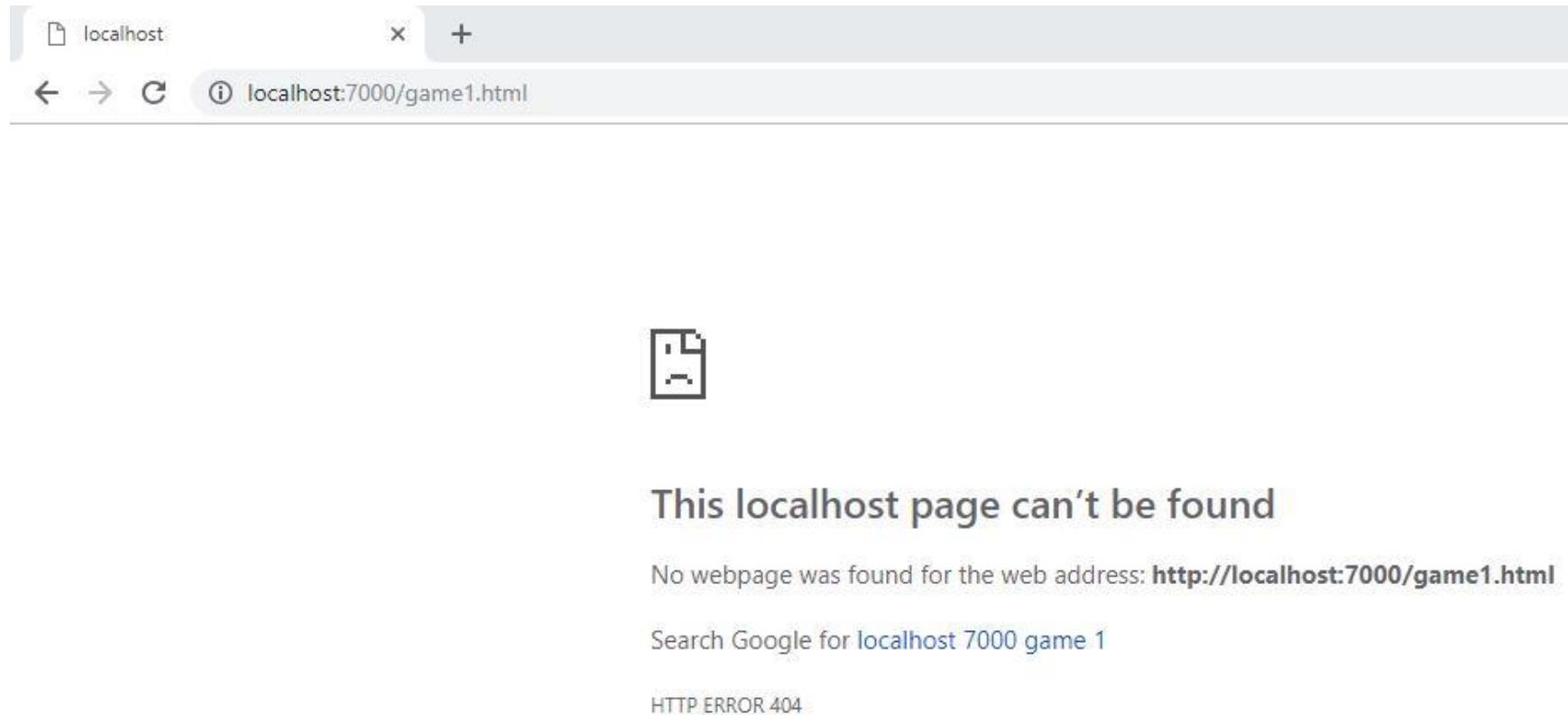
Note: The server's final move was not displayed on the board

✓ Test case passed

Test Case 8: Accessing a non-existent resource

Expected result: Browser should display 404 Not found

Actual result:

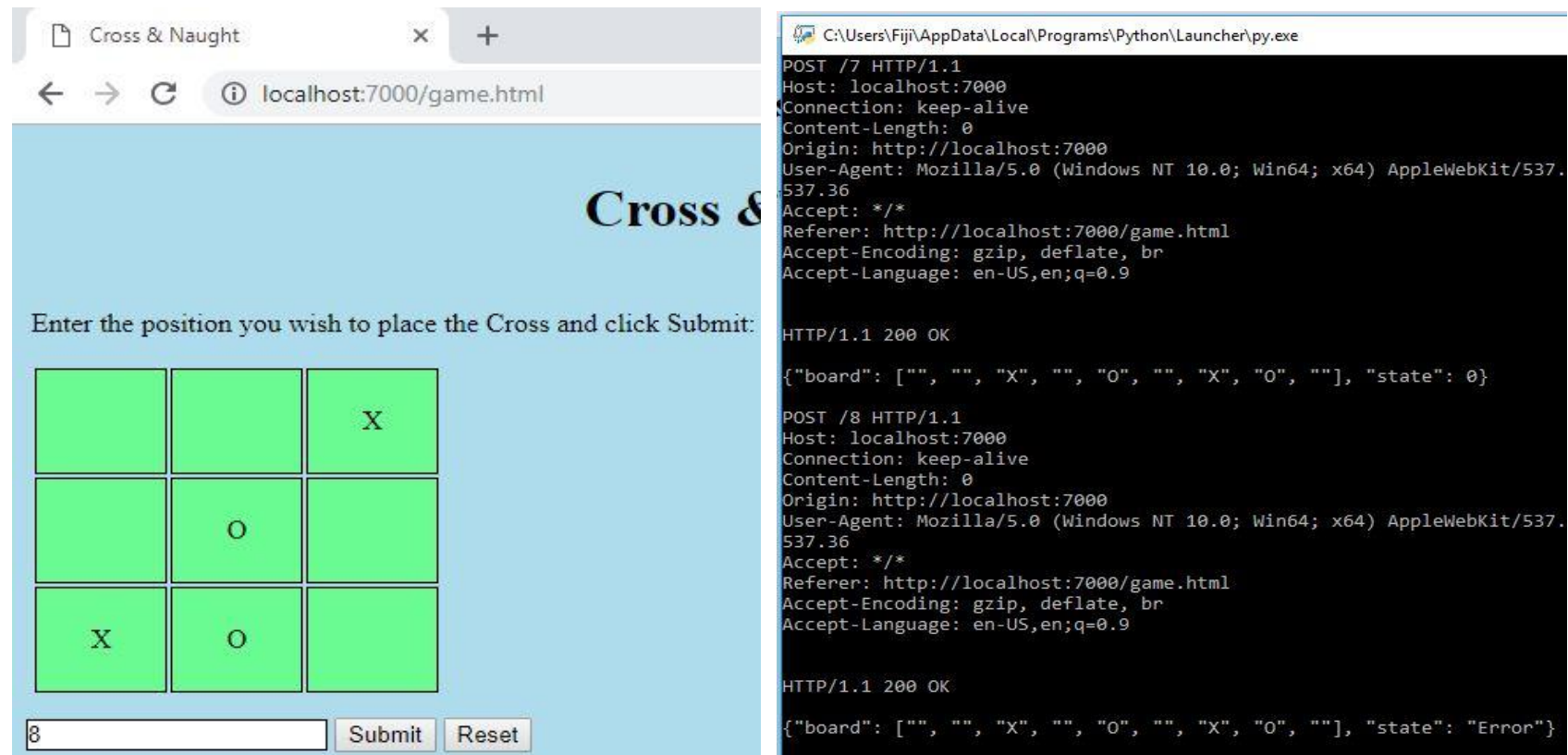


✓ Test case passed

Test Case 9: Choosing a position that is already occupied

Expected result: Input should be accepted, but the position should not be overwritten. Message to notify the user to choose an empty position.

Actual result:



The screenshot displays a web browser window titled "Cross & Naught" at the URL `localhost:7000/game.html`. The game interface features a 3x3 grid with a light blue background. The grid contains the following state:

		X
	O	
X	O	

Below the grid is an input field containing the character '8', and two buttons labeled "Submit" and "Reset". The text "Enter the position you wish to place the Cross and click Submit:" is positioned above the grid.

To the right of the browser window is a terminal window showing the following HTTP logs:

```
POST /7 HTTP/1.1
Host: localhost:7000
Connection: keep-alive
Content-Length: 0
Origin: http://localhost:7000
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36
Accept: */*
Referer: http://localhost:7000/game.html
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9

HTTP/1.1 200 OK

{"board": [ "", "", "X", "", "O", "", "X", "O", "" ], "state": 0}

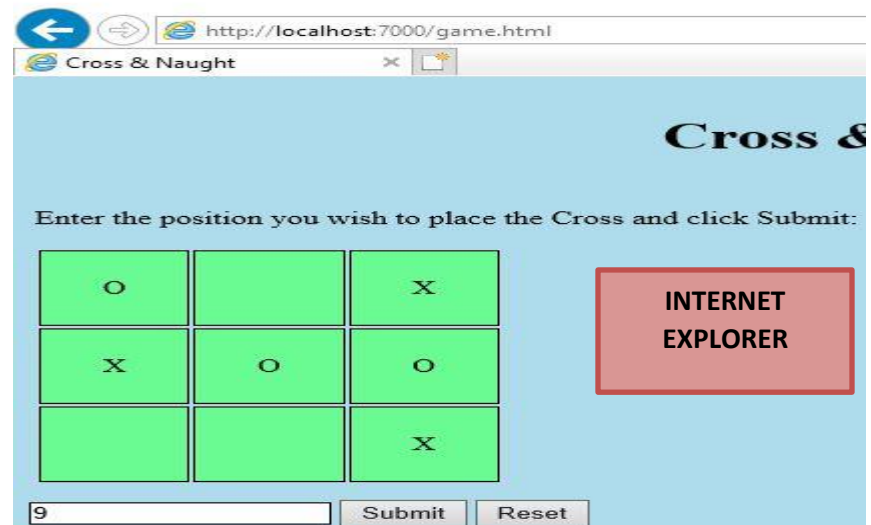
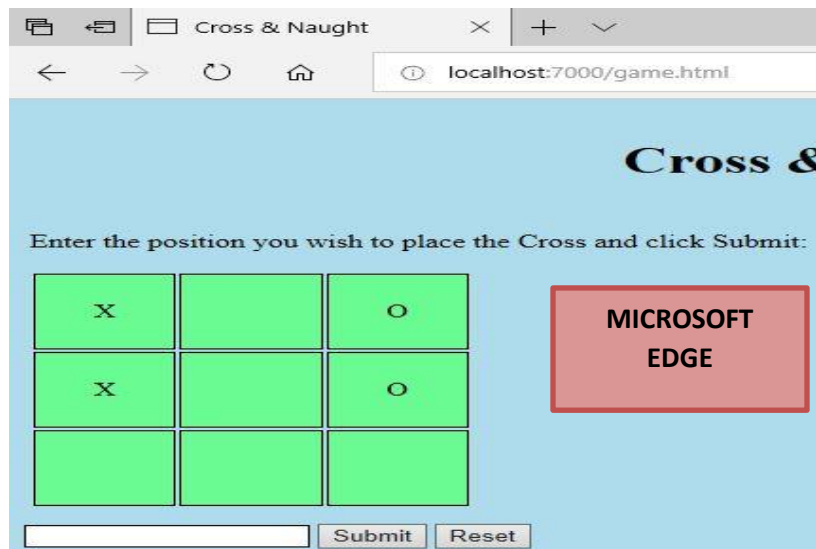
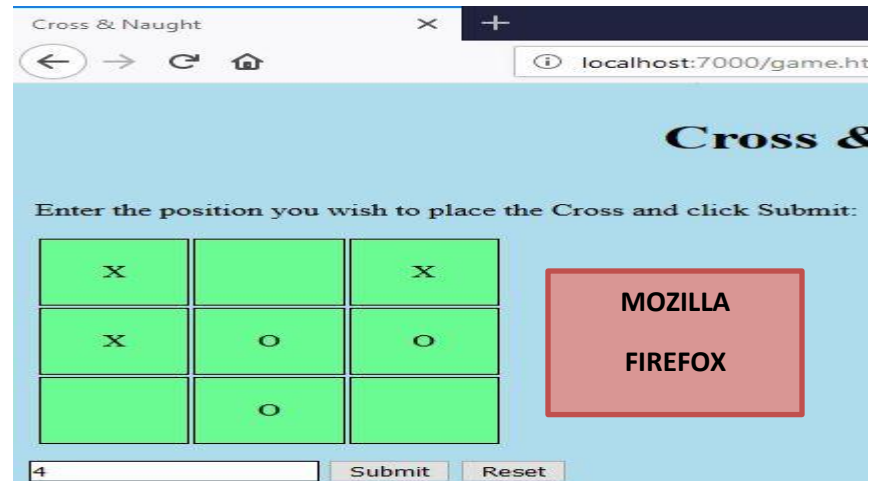
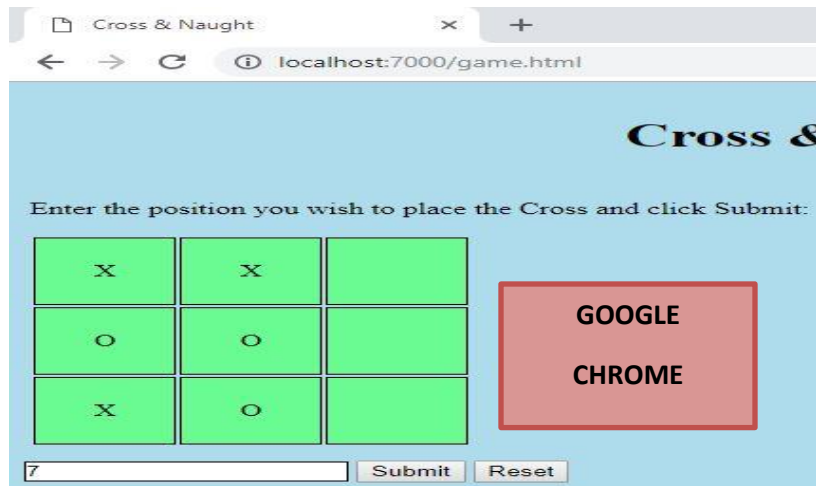
POST /8 HTTP/1.1
Host: localhost:7000
Connection: keep-alive
Content-Length: 0
Origin: http://localhost:7000
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36
Accept: */*
Referer: http://localhost:7000/game.html
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9

HTTP/1.1 200 OK

{"board": [ "", "", "X", "", "O", "", "X", "O", "" ], "state": "Error"}
```

✓ Test case passed almost completely – input was accepted, but there was no alert to tell the user to choose another spot

## Test Case 10: Testing on various browsers



✓ Test case passed