

## LAB - 1

```
board = [' ' for _ in range(9)]
```

```
def draw_board():
    row1 = '| {} | {} | {} |'.format(board[0], board[1], board[2])
    row2 = '| {} | {} | {} |'.format(board[3], board[4], board[5])
    row3 = '| {} | {} | {} |'.format(board[6], board[7], board[8])

    print()
    print(row1)
    print(row2)
    print(row3)
    print()
```

```
def player_move(icon):
    if icon == 'X':
        number = 1
    elif icon == 'O':
        number = 2

    print("Your turn player {}".format(number))

    choice = int(input("Enter your move (1-9): ").strip())
    if board[choice - 1] == ' ':
        board[choice - 1] = icon
    else:
        print()
        print("That space is taken!")
```

```
def is_victory(icon):
    if (board[0] == icon and board[1] == icon and board[2] == icon) or \
        (board[3] == icon and board[4] == icon and board[5] == icon) or \
        (board[6] == icon and board[7] == icon and board[8] == icon) or \
        (board[0] == icon and board[3] == icon and board[6] == icon) or \
        (board[1] == icon and board[4] == icon and board[7] == icon) or \
        (board[2] == icon and board[5] == icon and board[8] == icon) or \
        (board[0] == icon and board[4] == icon and board[8] == icon) or \
        (board[2] == icon and board[4] == icon and board[6] == icon):
        return True
    else:
        return False
```

```
def is_draw():
    if ' ' not in board:
        return True
    else:
        return False
```

```
def play_game():
    draw_board()
    while True:
        player_move('X')
        draw_board()
        if is_victory('X'):
            print("Player 1 wins! Congratulations!")
            break
        elif is_draw():
            print("It's a draw!")
```

```

        break
    player_move('O')
    draw_board()
    if is_victory('O'):
        print("Player 2 wins! Congratulations!")
        break
    elif is_draw():
        print("It's a draw!")
        break

```

play\_game()

Output:

The screenshot shows a Google Colab notebook with the following content:

**Code:**

```
play_game()
```

**Output:**

```

| | | |
| | | |
| | | |

Your turn player 1
Enter your move (1-9): 1

| x | | |
| | | |
| | | |

Your turn player 2
Enter your move (1-9): 9

| x | | |
| | | o |
| | | |

Your turn player 1
Enter your move (1-9): 2

| x | x | |
| | | o |
| | | |

Your turn player 2
Enter your move (1-9): 8

| x | x | |
| | o | o |
| | | |

Your turn player 1
Enter your move (1-9): 3

| x | x | x |
| | o | o |
| | | |

Player 1 wins! Congratulations!

```

At the bottom of the notebook, it says "✓ 28s completed at 11:34 AM".

```
| | | |  
| | | |  
| | | |
```

Your turn player 1  
Enter your move (1-9): 1

```
| x | | |  
| | | |  
| | | |
```

Your turn player 2  
Enter your move (1-9): 9

```
| x | | |  
| | | |  
| | | o |
```

Your turn player 1  
Enter your move (1-9): 3

```
| x | | x |  
| | | |  
| | | o |
```

Your turn player 2  
Enter your move (1-9): 2

```
| x | o | x |  
| | | |  
| | | o |
```

Your turn player 1  
Enter your move (1-9): 7

```
| x | o | x |  
| | | |  
| x | | o |
```

Your turn player 2  
Enter your move (1-9): 4

```
| x | o | x |  
| o | | |  
| x | | o |
```

Your turn player 1  
Enter your move (1-9): 6

```
| x | o | x |  
| o | | x |  
| x | | o |
```

Your turn player 2  
Enter your move (1-9): 5

```
| x | o | x |  
| o | o | x |  
| x | | o |
```

Your turn player 1  
Enter your move (1-9): 8

```
| x | o | x |  
| o | o | x |  
| x | x | o |
```

It's a draw!