

# WRITE A PYTHON PROGRAM FOR TIC TAC TOE

## GAME

### **AIM:**

To write a python program to run a tic tac toe game.

### **PROGRAM:**

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

def print_board():
    for i in range(3):
        print(" | ".join(board[i*3:(i*3)+3]))
        if i != 2:
            print("-" * 9)

def is_winner(player):
    win_conditions = ((0, 1, 2), (3, 4, 5), (6, 7, 8), (0, 3, 6), (1, 4, 7),
                       (2, 5, 8), (0, 4, 8), (2, 4, 6))
    for condition in win_conditions:
        if all(board[i] == player for i in condition):
            return True
    return False

def is_board_full():
    return all(space != " " for space in board)

while True:
    print_board()

    player_1_move = int(input("Player 1 (X), enter your move (1-9): ")) - 1
    if board[player_1_move] != " ":
        print("Invalid move. Please choose an empty space.")
        continue
```

```
board[player_1_move] = "X"
```

```
if is_winner("X"):
    print_board()
    print("Player 1 (X) wins!")
    break
```

```
if is_board_full():
    print_board()
    print("It's a tie!")
    break
```

```
print_board()
```

```
player_2_move = int(input("Player 2 (O), enter your move (1-9): ")) - 1
```

```
if board[player_2_move] != " ":
    print("Invalid move. Please choose an empty space.")
    continue
```

```
board[player_2_move] = "O"
```

```
if is_winner("O"):
    print_board()
    print("Player 2 (O) wins!")
    break
```

```
print("Thanks for playing!")
```

## OUTPUT:

```
X |  | 
-----
  |  | 
-----
  |  | 
Player 2 (O), enter your move (1-9): 2
X | O | 
-----
  |  | 
-----
  |  | 
Player 1 (X), enter your move (1-9): 5
X | O | 
-----
  | X | 
-----
  |  | 
Player 2 (O), enter your move (1-9): 3
X | O | O
-----
  | X | 
-----
  |  | 
Player 1 (X), enter your move (1-9): 9
X | O | O
-----
  | X | 
-----
  |  | X
Player 1 (X) wins!
Thanks for playing!
```

## RESULT:

The program was executed successfully and results was obtained.