

In [1]:

```
import pygame
import sys

# Initialize Pygame
pygame.init()

# Create a window for the game
screen = pygame.display.set_mode((300, 300))

# Set the caption for the window
pygame.display.set_caption("Tic Tac Toe")

# Create a font for rendering the X and O symbols
font = pygame.font.SysFont(None, 100)

# Initialize the game board with empty spaces
board = [[" ", " ", " "] for _ in range(3)]

# Define the two players
players = ["X", "O"]

# Set the current player to be the first player in the list
current_player = players[0]

# Set the game over flag to False
game_over = False

# Define the colors for the winner and tie messages
winner_color = (255, 0, 0) # Red
tie_color = (0, 0, 255) # Blue

# Function to draw the tic-tac-toe board
def draw_board():
    # Fill the screen with white
    screen.fill((255, 255, 255))

    # Draw the horizontal and vertical lines
    for i in range(1, 3):
        pygame.draw.line(screen, (0, 0, 0), (0, i*100), (300, i*100), 3)
        pygame.draw.line(screen, (0, 0, 0), (i*100, 0), (i*100, 300), 3)

    # Draw the X and O symbols
    for i in range(3):
        for j in range(3):
            if board[i][j] != " ":
                text = font.render(board[i][j], True, (0, 0, 0))
                screen.blit(text, (j*100 + 50 - text.get_width()//2, i*100 + 50 - text.get_height()))

# Function to check if a player has won
def check_win(player):
    for i in range(3):
        if board[i][0] == board[i][1] == board[i][2] == player:
            return True
        if board[0][i] == board[1][i] == board[2][i] == player:
            return True
    if board[0][0] == board[1][1] == board[2][2] == player:
        return True
    if board[0][2] == board[1][1] == board[2][0] == player:
        return True
```

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    return False

# Main game loop
while True:
    # Clear the game board
    board = [[" ", " ", " "] for _ in range(3)]

    # Set the current player to be the first player in the list
    current_player = players[0]

    # Set the game over flag to False
    game_over = False

    # Draw the initial board
    draw_board()
    pygame.display.update()

    # Wait for the player to click on a cell
    while not game_over:
        for event in pygame.event.get():
            if event.type == pygame.QUIT:
                pygame.quit()
                sys.exit()

        # Check for mouse click events
        elif event.type == pygame.MOUSEBUTTONDOWN:
            x, y = pygame.mouse.get_pos()
            row, col = y//100, x//100

            # Check if the cell is already occupied
            if board[row][col] == " ":
                board[row][col] = current_player
                draw_board()
                pygame.display.update()

            # Check if the current player has won
            if check_win(current_player):
                winner_text = font.render(f"{current_player} wins!", True, winner_color)
                winner_rect = winner_text.get_rect(center=(150, 150))
                screen.blit(winner_text, winner_rect)
                pygame.display.update()
                pygame.time.wait(1000)
                game_over = True
                break

            # Switch to the other player's turn
            elif all(board[i][j] != " " for i in range(3) for j in range(3)):
                tie_text = font.render("Tie!", True, tie_color)
                tie_rect = tie_text.get_rect(center=(150, 150))
                screen.blit(tie_text, tie_rect)
                pygame.display.update()
                pygame.time.wait(1000)
                game_over = True
                break

            # Switch to the other player's turn
            else:
                current_player = players[(players.index(current_player)+1)%2]

    # Add a small delay to reduce CPU usage
    pygame.time.wait(10)

```

pygame 2.2.0 (SDL 2.0.22, Python 3.9.13)

Hello from the pygame community. <https://www.pygame.org/contribute.html> (http

[s://www.pygame.org/contribute.html](https://www.pygame.org/contribute.html))

An exception has occurred, use %tb to see the full traceback.

SystemExit

```
C:\ProgramData\Anaconda3\lib\site-packages\IPython\core\interactiveshell.py:3465: UserWarning: To exit: use 'exit', 'quit', or Ctrl-D.  
warn("To exit: use 'exit', 'quit', or Ctrl-D.", stacklevel=1)
```

In [14]:

%tb

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SystemExit                                Traceback (most recent call last)  
~\AppData\Local\Temp\ipykernel_1944\3900678322.py in <module>  
    80         if event.type == pygame.QUIT:  
    81             pygame.quit()  
--> 82             sys.exit()  
    83  
    84         # Check for mouse click events
```

SystemExit:

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