```python
In [1]:   import random
```

```python
In [2]:   def print_board(board):
              for i in range(3):
                  print(" | ".join(board[i]))
                  if i < 2:
                      print("-" * 9)
```

```python
In [3]:   def check_winner(board, player):
              for i in range(3):
                  if all(board[i][j] == player for j in range(3)):
                      return True

              for j in range(3):
                  if all(board[i][j] == player for i in range(3)):
                      return True

              if all(board[i][i] == player for i in range(3)) or all(board[i][2 - i] == player
                  return True

              return False
```

```python
In [4]:   def is_full(board):
              return all(cell != " " for i in range(3) for row in board for cell in row)
```

```python
In [5]:   def ai_move(board):
              available_moves = [(i, j) for i in range(3) for j in range(3) if board[i][j] == "
              return random.choice(available_moves)
```

```python
In [6]:   def game():
              board = [[" " for _ in range(3)] for _ in range(3)]
              player = "X"
              ai = "O"

              while True:
                  print_board(board)

                  if player == "X":
                      row = int(input("Choose a row (1, 2, 3): "))
                      col = int(input("Choose a column (1, 2, 3): "))
                  else:
                      print("AI is thinking...")
                      move = ai_move(board)
                      row, col = move[0], move[1]

                  if board[row-1][col-1] == " ":
                      board[row-1][col-1] = player
                  else:
                      print("That cell is already occupied. Try again.")
                      continue

                  if check_winner(board, player):
                      print_board(board)
                      if player == "X":
                          print("You win!")
                      else:
                          print("AI wins!")
                      break

                  if is_full(board):
                      print_board(board)
                      print("It's a tie!")
                      break

                  player = "O" if player == "X" else "X"

          game()
```

```
  |   |
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  |   |
---------
  |   |
Choose a row (1, 2, 3): 2
Choose a column (1, 2, 3): 3
  |   |
---------
  |   | X
---------
  |   |
AI is thinking...
  |   | O
---------
  |   | X
---------
  |   |
Choose a row (1, 2, 3): 2
Choose a column (1, 2, 3): 1
  |   | O
---------
X |   | X
---------
  |   |
AI is thinking...
That cell is already occupied. Try again.
  |   | O
---------
X |   | X
---------
  |   |
AI is thinking...
  |   | O
---------
X |   | X
---------
O |   |
Choose a row (1, 2, 3): 2
Choose a column (1, 2, 3): 2
  |   | O
---------
X | X | X
---------
O |   |
You win!
```

```
In [ ]:
```