

```
import math
```

```
# Constants
```

```
HUMAN = 'O'
```

```
AI = 'X'
```

```
EMPTY = ' '
```

```
board = [[EMPTY for _ in range(3)] for _ in range(3)]
```

```
def print_board(b):
```

```
    for row in b:
```

```
        print('|'.join(row))
```

```
    print('-'*5)
```

```
def is_moves_left(b):
```

```
    for row in b:
```

```
        if EMPTY in row:
```

```
            return True
```

```
    return False
```

```
def evaluate(b):
```

```
    for row in b:
```

```
        if row.count(AI) == 3:
```

```
            return 10
```

```
        if row.count(HUMAN) == 3:
```

```
            return -10
```

```
for col in range(3):
    if all(b[row][col] == AI for row in range(3)):
        return 10
    if all(b[row][col] == HUMAN for row in range(3)):
        return -10
```

```
if all(b[i][i] == AI for i in range(3)):
    return 10
if all(b[i][i] == HUMAN for i in range(3)):
    return -10
```

```
if all(b[i][2 - i] == AI for i in range(3)):
    return 10
if all(b[i][2 - i] == HUMAN for i in range(3)):
    return -10
```

```
return 0
```

```
def minimax(b, depth, is_maximizing):
    score = evaluate(b)

    if score == 10 or score == -10:
        return score

    if not is_moves_left(b):
        return 0
```

```

if is_maximizing:
    best = -math.inf
    for i in range(3):
        for j in range(3):
            if b[i][j] == EMPTY:
                b[i][j] = AI
                value = minimax(b, depth + 1, False)
                best = max(best, value)
                b[i][j] = EMPTY
        return best
else:
    best = math.inf
    for i in range(3):
        for j in range(3):
            if b[i][j] == EMPTY:
                b[i][j] = HUMAN
                value = minimax(b, depth + 1, True)
                best = min(best, value)
                b[i][j] = EMPTY
        return best

```

```

def find_best_move(b):
    best_val = -math.inf
    best_move = (-1, -1)

    for i in range(3):
        for j in range(3):
            if b[i][j] == EMPTY:
                b[i][j] = AI
                move_val = minimax(b, 0, False)

```

```
b[i][j] = EMPTY
```

```
if move_val > best_val:
```

```
    best_val = move_val
```

```
    best_move = (i, j)
```

```
return best_move
```

```
def play_game():
```

```
    print("Welcome to Tic Tac Toe!")
```

```
    print("You are 'O', AI is 'X'.")
```

```
    print_board(board)
```

```
while is_moves_left(board) and evaluate(board) == 0:
```

```
    try:
```

```
        row, col = map(int, input("Enter your move (row and column 0-2): ").split())
```

```
        if board[row][col] != EMPTY:
```

```
            print("Cell already taken! Try again.")
```

```
            continue
```

```
    except:
```

```
        print("Invalid input! Enter two numbers between 0 and 2.")
```

```
        continue
```

```
board[row][col] = HUMAN
```

```
print_board(board)
```

```
if evaluate(board) != 0 or not is_moves_left(board):
```

```
    break
```

```
print("AI is making a move...")  
ai_row, ai_col = find_best_move(board)  
board[ai_row][ai_col] = AI  
print_board(board)
```

```
score = evaluate(board)  
if score == 10:  
    print("AI wins!")  
elif score == -10:  
    print("You win!")  
else:  
    print("It's a draw!")
```

```
play_game()
```