**IMPLEMENTATION AND CODE:**

Import math

# Display the board

Def print\_board(board):

For row in board:

Print(“|”.join(row))

Print(“-“ \* 5)

# Check for a winner

Def check\_winner(board):

For row in board:

If row.count(row[0]) == 3 and row[0] != “ “:

Return row[0]

For col in range(3):

If board[0][col] == board[1][col] == board[2][col] != “ “:

Return board[0][col]

If board[0][0] == board[1][1] == board[2][2] != “ “:

Return board[0][0]

If board[0][2] == board[1][1] == board[2][0] != “ “:

Return board[0][2]

Return None

# Minimax Algorithm

Def minimax(board, depth, is\_maximizing):

Winner = check\_winner(board)

If winner == “O”: return 1

If winner == “X”: return -1

If all(cell != “ “ for row in board for cell in row): return 0

If is\_maximizing:

Best\_score = -math.inf

For I in range(3):

For j in range(3):

If board[i][j] == “ “:

Board[i][j] = “O”

Score = minimax(board, depth + 1, False)

Board[i][j] = “ “

Best\_score = max(score, best\_score)

Return best\_score

Else:

Best\_score = math.inf

For I in range(3):

For j in range(3):

If board[i][j] == “ “:

Board[i][j] = “X”

Score = minimax(board, depth + 1, True)

Board[i][j] = “ “

Best\_score = min(score, best\_score)

Return best\_score

# Determine the best move for AI

Def best\_move(board):

Best\_score = -math.inf

Move = None

For I in range(3):

For j in range(3):

If board[i][j] == “ “:

Board[i][j] = “O”

Score = minimax(board, 0, False)

Board[i][j] = “ “

If score > best\_score:

Best\_score = score

Move = (I, j)

Return move

# Game loop

Board = [[“ “ for \_ in range(3)] for \_ in range(3)]

While True:

Print\_board(board)

If check\_winner(board) or all(cell != “ “ for row in board for cell in row):

Break

X, y = map(int, input(“Enter row and column (0-2): “).split())

If board[x][y] == “ “:

Board[x][y] = “X”

If not check\_winner(board):

Ai = best\_move(board)

If ai:

Board[ai[0]][ai[1]] = “O”

Print\_board(board)

Winner = check\_winner(board)

Print(“Winner:”, winner if winner else “Draw!”)

**OUTPUT:**

| |

| |

| |

Enter row and column (0-2): 0 0

X| |

|O|

| |

Enter row and column (0-2): 2 2

X| |

|O|

| |X

Winner: Draw!