

MINIMAX algorithm

Aim

To implement MINIMAX algorithm.

Code

```
def win(b):  
    l = b + [list(c) for c in zip(*b)] + [[b[i][i] for i in range(3)], [b[i][2-i] for i in range(3)]]  
    for r in l:  
        if r == ["X"]*3: return -1  
        if r == ["O"]*3: return 1  
    return 0  
  
def mm(b, turn):  
    if win(b) or all(c != " " for r in b for c in r): return win(b)  
    scores = []  
    for i in range(3):  
        for j in range(3):  
            if b[i][j] == " ":  
                b[i][j] = turn  
                scores.append(mm(b, "O" if turn == "X" else "X"))  
                b[i][j] = " "  
    return max(scores) if turn == "O" else min(scores)  
  
board = [["X", "O", "X"], ["O", "X", " "], [" ", " ", "O"]]  
print(mm(board, "O"))
```

Output

0

Result

The minimax algorithm is solved using python successfully.