```
def evaluate_utility(self, board):
    self.num_red_man = 0
    self.num_red_king = 0
    self.num_black_man = 0
    self.num_black_king = 0
    points_wall_red = 0
    points_wall_black = 0
    points_center_red = 0
    points_center_black = 0

    for row in board:
        for piece in row:
            up = piece.row - 1
            down = piece.row + 1
            left = piece.col - 1
            right = piece.col + 1

            if piece.colour == 'r':
                self.num_red_man += 1
            if piece.colour == 'R':
                self.num_red_king += 1
            if piece.colour == 'b':
                self.num_black_man += 1
            if piece.colour == 'B':
                self.num_black_king += 1

            if (piece.colour == 'r' or piece.colour == 'R'):
                #If Red sticked to wall
                if (piece.col == 0 or piece.col == 7):
                    points_wall_red += 0.5
                #If Red takes center
                if ((piece.col >= 2 and piece.col <= 5) and (piece.row >= 2 and piece.row <= 5)):
                    # without Black's threat
                    if (board[up][left] != 'b') or (board[up][left] == 'b' and board[down][right] != '0'):
                        if (board[up][left] != 'B') or (board[up][left] == 'B' and board[down][right] != '0'):
                            if (board[up][right] != 'b') or (board[up][right] == 'b' and board[down][left] != '0'):
                                if (board[up][right] != 'B') or (board[up][right] == 'B' and board[down][left] != '0'):
                                        if (board[down][left] != 'B') or (board[down][left] == 'B' and board[up][right] != '0'):
                                            if (board[down][right] != 'B') or (board[down][right] == 'B' and board[up][left] != '0'):
                                                if(piece.colour == 'r'):
                                                    points_center_red += 0.5
                                                if(piece.colour == 'R'):
                                                    points_center_red += 1

            if (piece.colour == 'b' or piece.colour == 'B'):
                #If Black sticked to wall
                if (piece.col == 0 or piece.col == 7):
                    points_wall_black += 0.5
                #If Black takes center
                if ((piece.col >= 2 and piece.col <= 5) and (piece.row >= 2 and piece.row <= 5)):
                    # without Reds's threat
                    if (board[down][left] != 'r') or (board[down][left] == 'r' and board[up][right] != '0'):
                        if (board[down][left] != 'R') or (board[down][left] == 'R' and board[up][right] != '0'):
                            if (board[down][right] != 'r') or (board[down][right] == 'r' and board[up][left] != '0'):
                                if (board[down][right] != 'R') or (board[down][right] == 'R' and board[up][left] != '0'):
                                        if (board[up][left] != 'R') or (board[up][left] == 'R' and board[down][right] != '0'):
                                            if (board[up][right] != 'R') or (board[up][right] == 'R' and board[down][left] != '0'):
                                                if(piece.colour == 'b'):
                                                    points_center_black += 0.5
                                                if(piece.colour == 'B'):
                                                    points_center_black += 1

    points_num_red = (self.num_red_man + (self.num_red_king * 2))
    points_num_black = (self.num_black_man + (self.num_black_king * 2))

    points_num = (points_num_red - points_num_black)
    points_wall = (points_wall_red - points_wall_black)
    points_center = (points_center_red - points_center_black)

    points_total = points_num + points_wall + points_center

    utility = points_total
    return utility
```

I have came up with a Heuristic function that counts 3 things.

1. (Lines 179-186 & 224-225) The given utility where I count the number of Red pieces and Black pieces. Red Normal pieces = +1, Red King pieces = +2, Black Normal pieces = -1, Black King pieces = -2.
2. (Lines 189-191 & 207-209 & 228) Counting the number of pieces that Stick to the Wall so that it cannot be captured. When a Red piece sticks to the wall, Black cannot capture it, thus +0.5. When a Black piece sticks to the wall, Red cannot capture it, thus -0.5
3. (Lines 192-204 & 210-222 & 229) Counting the number of pieces that Take Control of the Center so that it has more possible choices to move. Taking Control of the Center also means that it shouldn't be threatened by the Opponent. If Red Normal pieces take control of the center, +0.5, if Red King pieces take control of the center, +1.0. If Black Normal pieces take control of the center, -0.5, if Black King pieces take control of the center, -1.0.

At the end, these points are all added to determine the utility (Heuristic) of each state.