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Necessary Helper Functions

```
import copy  # To copy the board

def find_king(board, is_white):
    """Find the coordinates of a King of a given color."""
    king_symbol = 'K' if is_white else 'k'
    for r in range(8):
        for c in range(8):
            if board[r][c] == king_symbol:
                return (r, c)
    return None

def is_square_attacked(board, r, c, by_white):
    """
    Check if a square is attacked by pieces of a certain color.
    by_white=True means: is the square attacked by white pieces?
    """
    # Check knight attacks
    knight_jumps = [(2,1), (2,-1), (-2,1), (-2,-1), (1,2), (1,-2), (-1,2), (-1,-
2)]
    knight = 'N' if by_white else 'n'
    for dr, dc in knight_jumps:
        nr, nc = r + dr, c + dc
        if 0 <= nr <= 7 and 0 <= nc <= 7:
            if board[nr][nc] == knight:
                return True

    # Check linear attacks (Rook, Queen)
    rook = 'R' if by_white else 'r'
    queen = 'Q' if by_white else 'q'
    for dr, dc in [(-1,0), (1,0), (0,-1), (0,1)]:
        nr, nc = r + dr, c + dc
        while 0 <= nr <= 7 and 0 <= nc <= 7:
            piece = board[nr][nc]
            if piece != '.':
                if piece in [rook, queen]:
                    return True
                break
            nr += dr
            nc += dc

    # Check diagonal attacks (Bishop, Queen)
    bishop = 'B' if by_white else 'b'
    for dr, dc in [(-1,-1), (-1,1), (1,-1), (1,1)]:
        nr, nc = r + dr, c + dc
        while 0 <= nr <= 7 and 0 <= nc <= 7:
            piece = board[nr][nc]
            if piece != '.':
```

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```
                if piece in [bishop, queen]:
                    return True
                break
            nr += dr
            nc += dc

    # Check enemy King attacks
    enemy_king = 'K' if by_white else 'k'
    for dr in [-1, 0, 1]:
        for dc in [-1, 0, 1]:
            if dr == 0 and dc == 0:
                continue
            nr, nc = r + dr, c + dc
            if 0 <= nr <= 7 and 0 <= nc <= 7:
                if board[nr][nc] == enemy_king:
                    return True

    # Check Pawn attacks
    pawn = 'P' if by_white else 'p'
    pawn_direction = 1 if by_white else -1  # White attacks upward
    for dc in [-1, 1]:
        nr, nc = r + pawn_direction, c + dc
        if 0 <= nr <= 7 and 0 <= nc <= 7:
            if board[nr][nc] == pawn:
                return True

    return False
```

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