

Question 1:

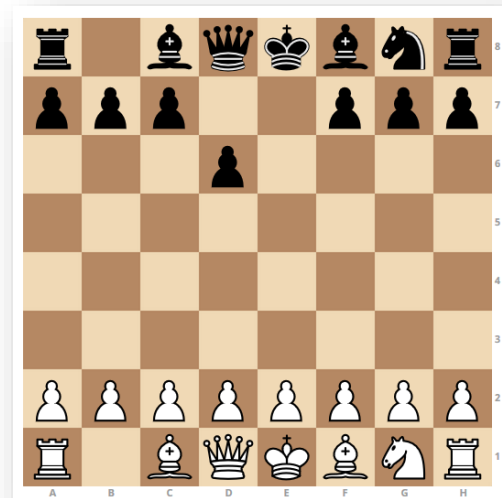
One Sunday afternoon you tune in to ESPN to watch a chess championship. Unfortunately, the game is already in progress so you don't know the moves that have happened so far, but you do know that there have been 4 plies (i.e. White has moved 4 times and so has Black). You can also see the current state of the board:

All the images are taken from website: <http://en.lichess.org>

We have used this website to create the images.

Problem Statement:

Determine the previous moves performed by each player, with a brief explanation of your answer. Submit this problem as a PDF consisting either of a typed document or a scan of a neatly-written handwritten document.



Some basic information:

- Knight: Knight moves 2 steps straight and one step across
- Pawn: Pawn moves one step forward and attacks one step across.

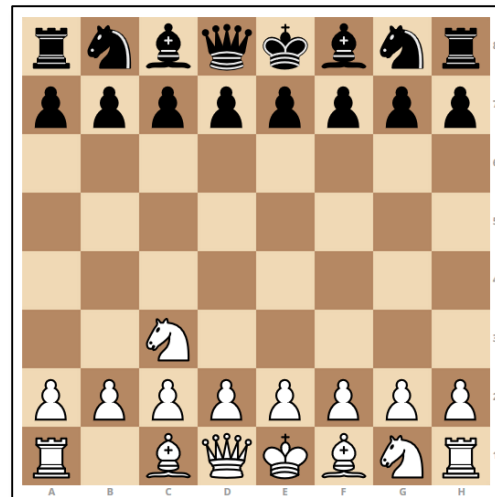
Approach:

Initially, as we check the problem we understand that one Black Knight, one White Knight, and one Black Pawn is missing. The final stage shown here is deceiving. We feel that the left Black Knight has been killed and as the forth Black Pawn from the left has been killed by the White Knight and the fifth Black Pawn from the left attacked the White Knight in the final move. However this condition cannot be accomplished in only four moves from both the sides and final state being as given above.

Thus, actually the fifth Black Pawn from left and the second Black Knight from the right has been killed by the White Knight and the White Knight has been killed by the first Black Knight. The moves happened in the game are given below

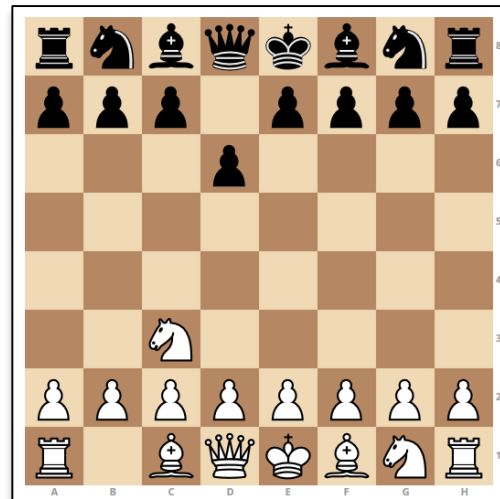
Move 1:

In Chess White side has to play first. As the White Knight from left is missing it has moved from its position. The first move is of White Knight from position (1, b) to position (3, c). As stated in the figure.



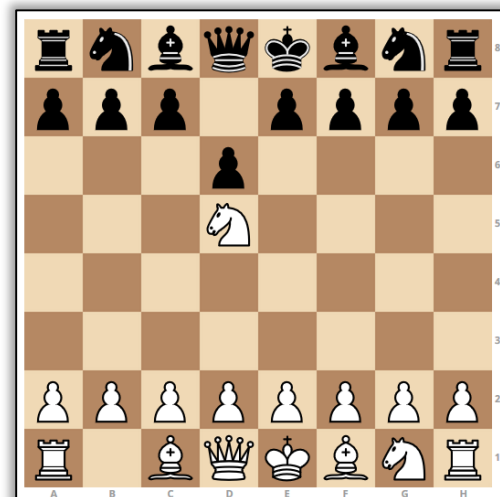
Move 2:

In second move, as the Black Pawn at position (7, d) has been displaced, it shall be moved first. So, the Black Pawn moves from position (7, d) to position (6, d).



Move 3:

In this move, since no other White element is moved, only White Knight is moved from position (3, c) to position (5, d).



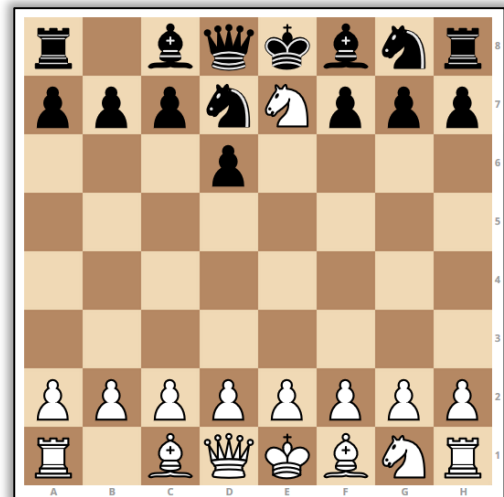
Move 4:

In this move, the Black Knight has moved from position (8, b) to position (7, d).



Move 5:

White Knight moved from position (5, d) to position (7, e) and killed first Black Pawn at that position.



Move 6:

Black Knight moved from position (7, d) to position (6, f)



Move 7:

White Knight moved from position (7, e) to position (8, g) and killed the first Black Knight at that position.



Move 8:

Black Knight moved from position (6, f) to position (8, g) and killed the White Knight.

