



How chess pieces move

By

G Bud Games
<https://gbud.in>

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Chapter 1

How chess pieces move

Each of the [chess pieces](#) has distinct move patterns and move only when the destination [square](#) is either empty or occupied by the opponents piece. Exception to this is the movement exist as described below.

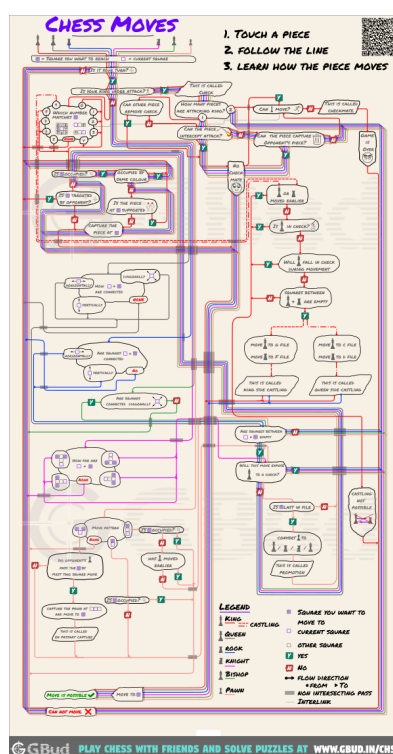


Figure 1.1: Infographics of chess moves

[Download](#) the large size pdf file of this infographics on moves at the [chess moves chart](#) page.

1.1 How king moves

The **King** moves only one square around it on any direction. The king can not move when the resulting move will land him in **check**. For example shown in the **How king in chess moves** figure, the king can not move to the **squares** b4, b5, b6 and d4. The squares b4, b5 and b6 falls in sight of the **Rook** at b1. Hence the king cannot move to these squares. Similarly, the king can not move to the square d4, as the square d4 is targeted by the **Knight** at e2. The king can move to other squares c4, c6, d5 and d6, as they are free and not targeted by opponents pieces. The king has a special move called **castling**. Castling is done along with the **Rook** at a or h **file**.

If your king is in check, you cant move other pieces if they do not remove the check threat by the opponent. King can't be used to give check to opponent directly. King can capture enemy pieces if the capture does not result in a check.

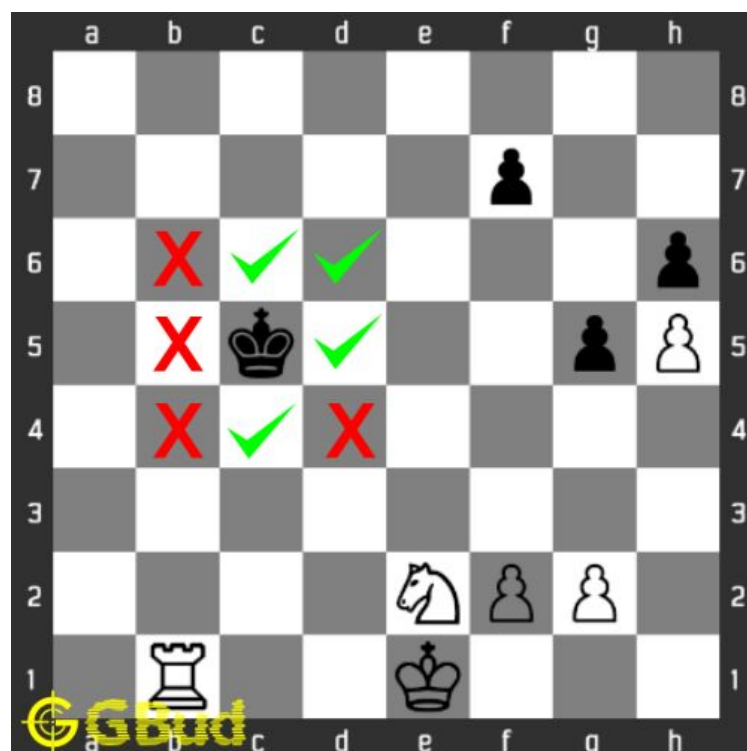


Figure 1.2: How king moves in chess

1.2 How Queen moves

The **Queen** moves **horizontally, vertically and diagonally**. The movement of the queen combines the movement of **Rook** and **Bishop**. In the **example**,

the white queen at e3 can move vertically up till e6, vertically move down to e2, horizontally to her left till a3, horizontally to her right to f3, moves diagonally till a7, h6, d2 and g1. The queen can not move when the move **exposes king to check**. In the board position with queen pinned to king, queen has the only move of capturing the bishop at b4, as other moves will expose the white king to check. Queen can not **jump over pieces**. In the **example** given below, the white queen can move f5 and f3 as the other squares are blocked by white and black pieces. The Queen captures the opponents piece at the destination square

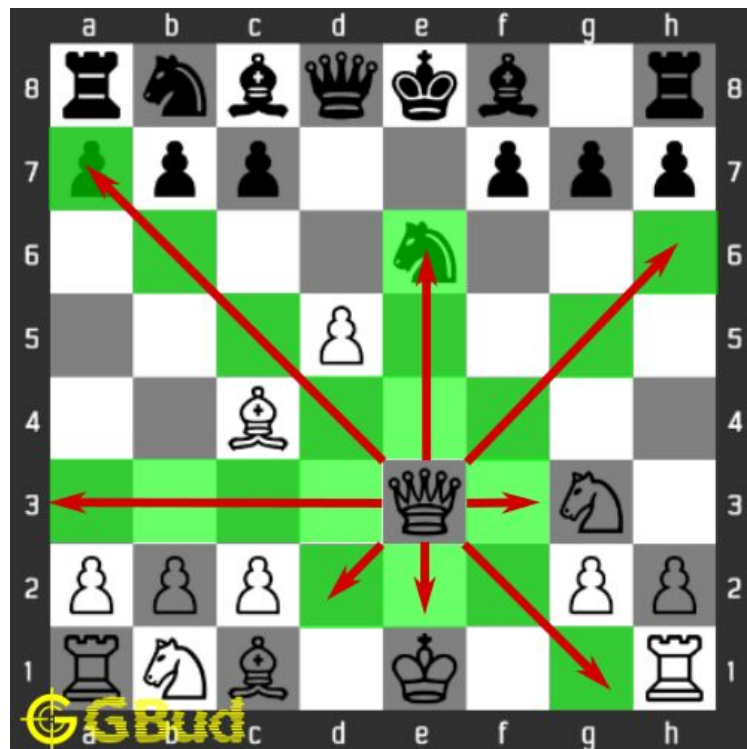


Figure 1.3: How Queen moves in chess

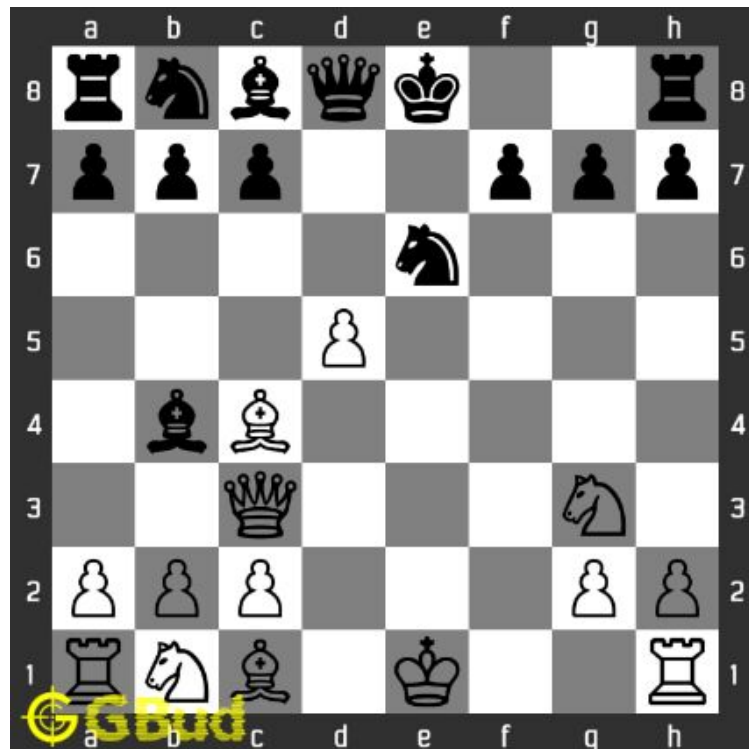


Figure 1.4: Only move for queen is to capture the bishop at b4



Figure 1.5: White Queen blocked by white and black pieces

1.3 How rook moves

Rook moves in the vertical and horizontal direction. In the [example](#) given below, the black rook at f8 can move in the f [file](#) till f3 and it can move horizontally to its right to e8. The rook can not move when the move [exposes king to check](#). In the [example](#), the black rook at f8 can not move in f file as it exposes the black king to check. Rook can not [jump over pieces](#), as seen in [example](#), all the rook can move except the rook at a1, since the rook at a1 is blocked by white pieces.

The rook captures the opponents piece at the destination square. When the king and the rook are not moved from the default position, and when the king is not in check and the squares between the king and rook are empty and the king does not fall in check during movement, the positions of both king and rook can be changed which is called castling.

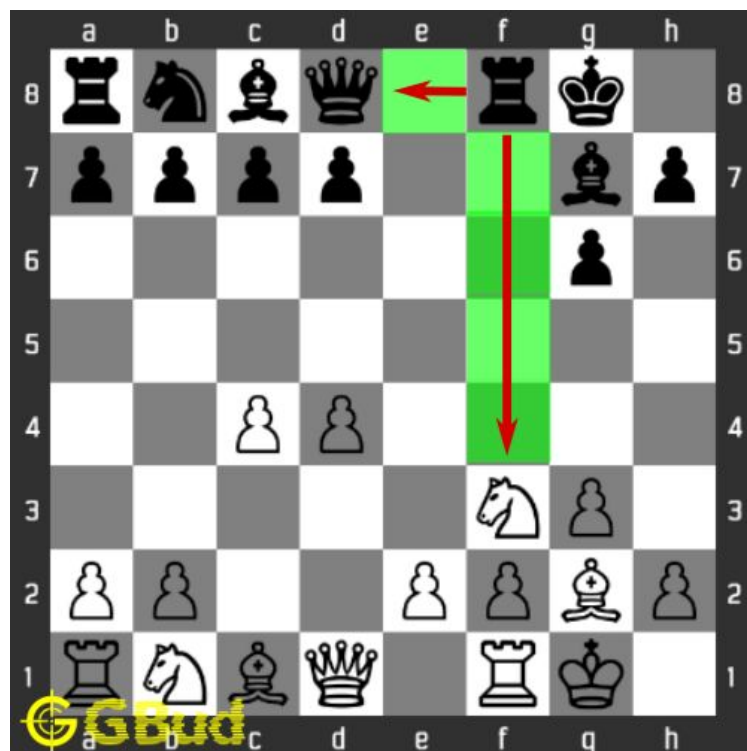


Figure 1.6: How rook moves in chess

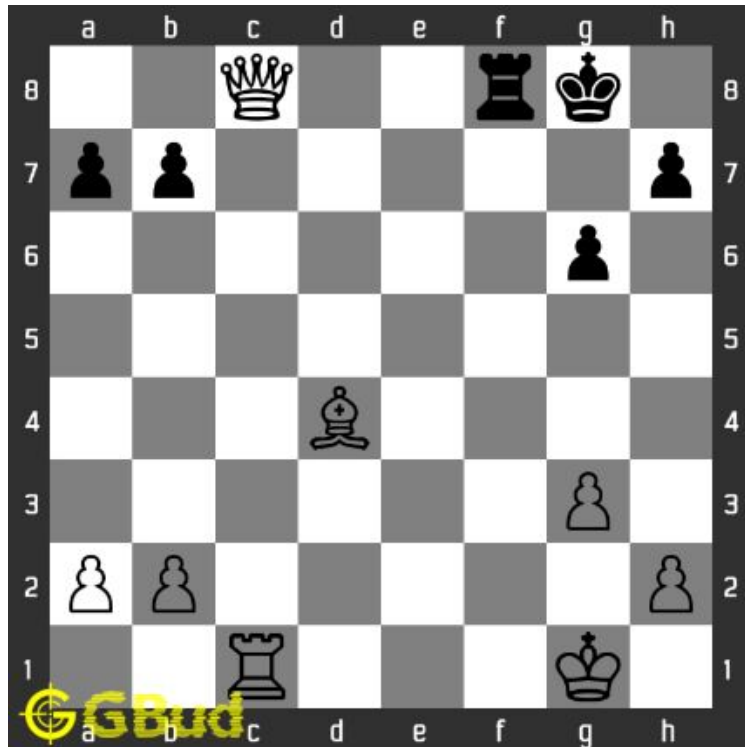


Figure 1.7: Black rook can not move in f file

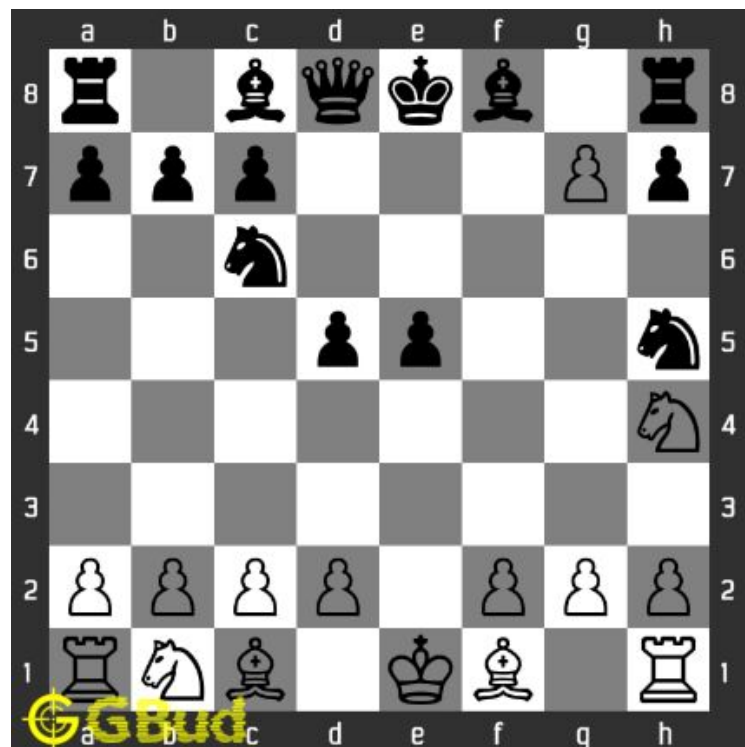


Figure 1.8: Rook can not jump over pieces

1.4 How Bishop moves

Bishop moves only diagonally. This means that the bishop at the black square moves only to the black squares and the same is true for bishop at white square. The bishop can not move when the move exposes king to check. In the example given, the white bishop at d2 can not move to its diagonal right, since it exposes its king to a check by the black bishop at b4. Bishop can not jump over pieces. In this example, the white bishop at f1 can not move, because it is blocked by its own pawns at e2 and g2. The bishop captures the opponents piece at the destination square.

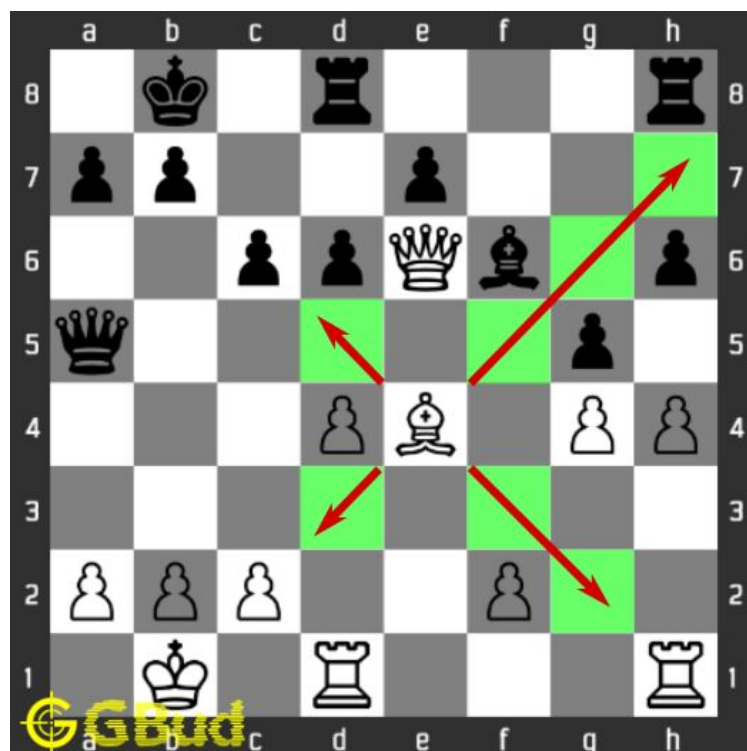


Figure 1.9: How bishop moves in chess

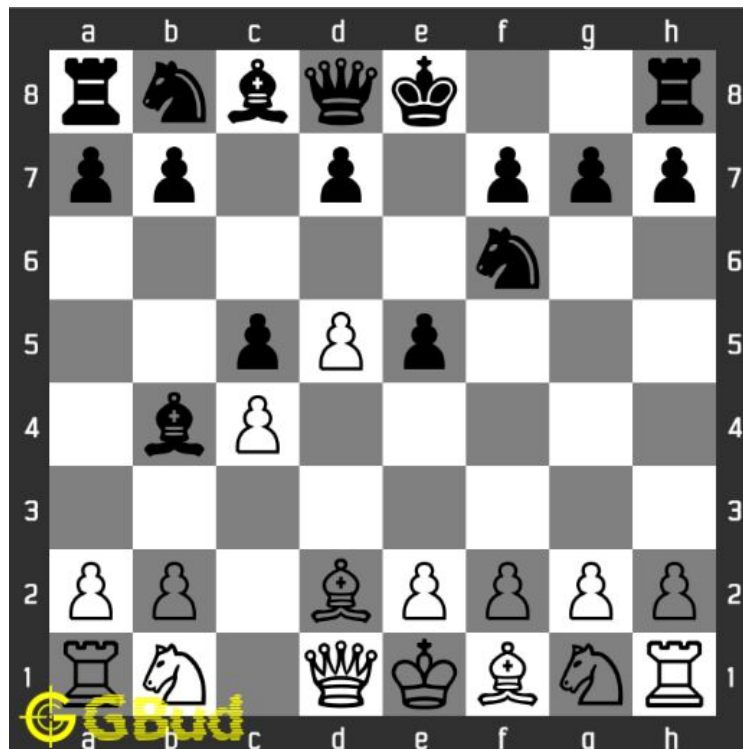


Figure 1.10: White bishop is pinned to king

1.5 How knight moves

Knight moves in a L pattern. The movement consists of two steps: moving two **squares** in horizontal or vertical direction followed by the movement of one square in the direction normal to the previous two squares move. This forms the pattern similar to the english alphabet L. The knight has a distinct move pattern unlike other **pieces** . The knight can **jump** over the pieces which represents the ability of horse to jump over obstacles. In the **example** given, the knight at c3 can move to the squares b5, a4, b1, d1, e4 and d4 even when it is surrounded by pieces. The knight can not move when the move **exposes king to check**. In the **example** given, the knight at the square c3 can not move because it will expose the king to a check by the bishop at b4. Knight can move if the destination square is empty or it captures the enemies piece at destination square.

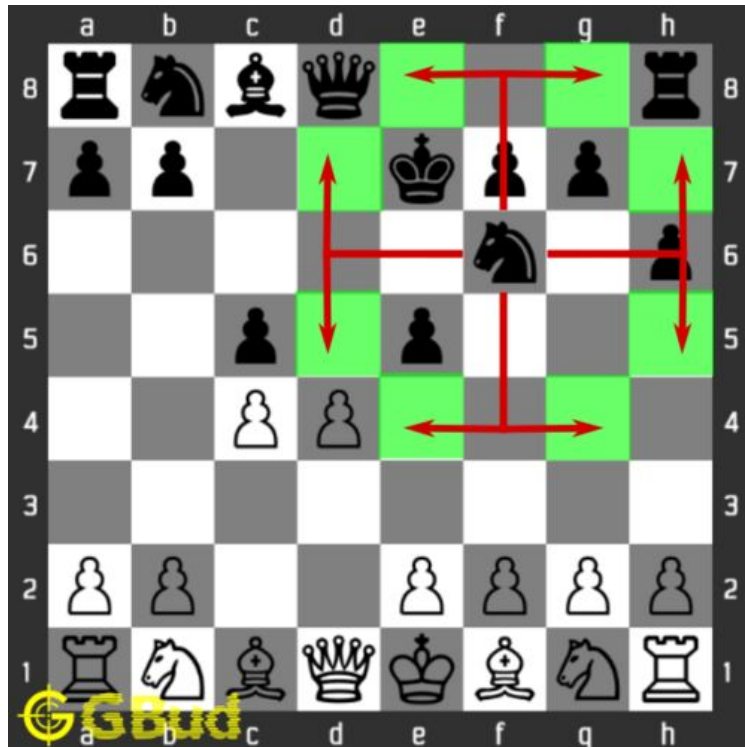


Figure 1.11: How knight moves in chess



Figure 1.12: Knight can jump over pieces



Figure 1.13: White knight pinned to king

1.6 How pawns move

Pawn advances only one **square** except when it is at the first move. During its first move, they have an option to move **two squares** or **one square**. The **pawn at d5** can move only one square to d6 since this is not its first move. However, **pawn at a2** can move one square to a3 or move two squares to a4 since it has not moved from the default square. The pawn can not move **backwards**. In the **example**, pawn at b2 can not move to b1 since it is a backward move. It can move front to b3 or b4. The pawn can not move when the move **exposes king to check**. In the **example**, the pawn at c3 can not move since it exposes the king to a check by the bishop at a5. Like other pieces, pawn **can not jump** over pieces. In the **example**, pawn at d5 can not move front since it is blocked by the black pawn at d6.

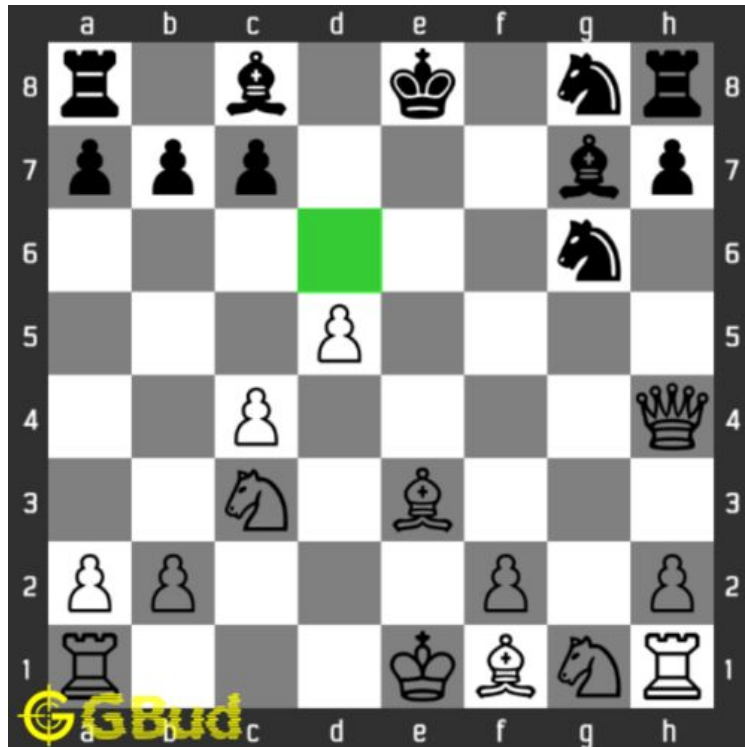


Figure 1.14: How pawn moves in chess

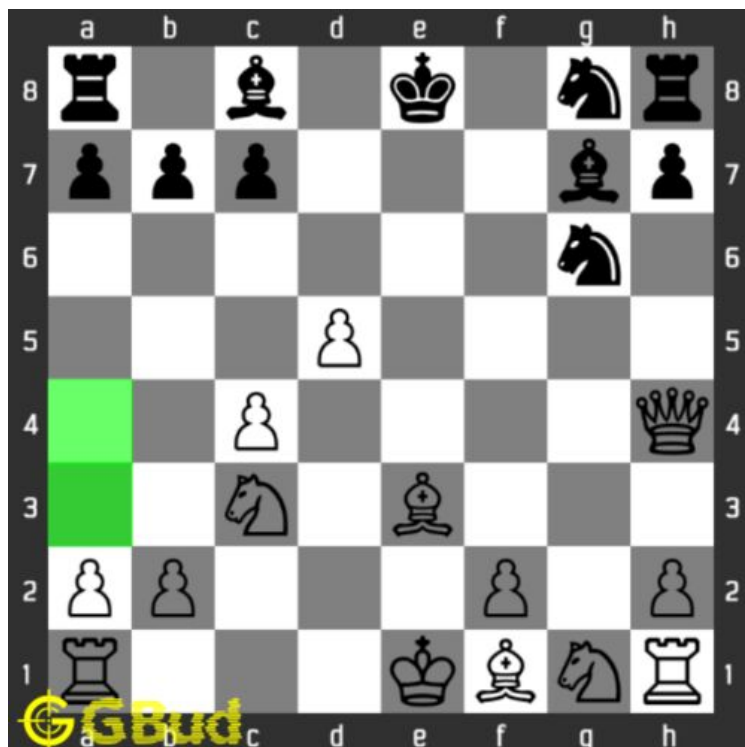


Figure 1.15: Pawn can move one or two squares on first move

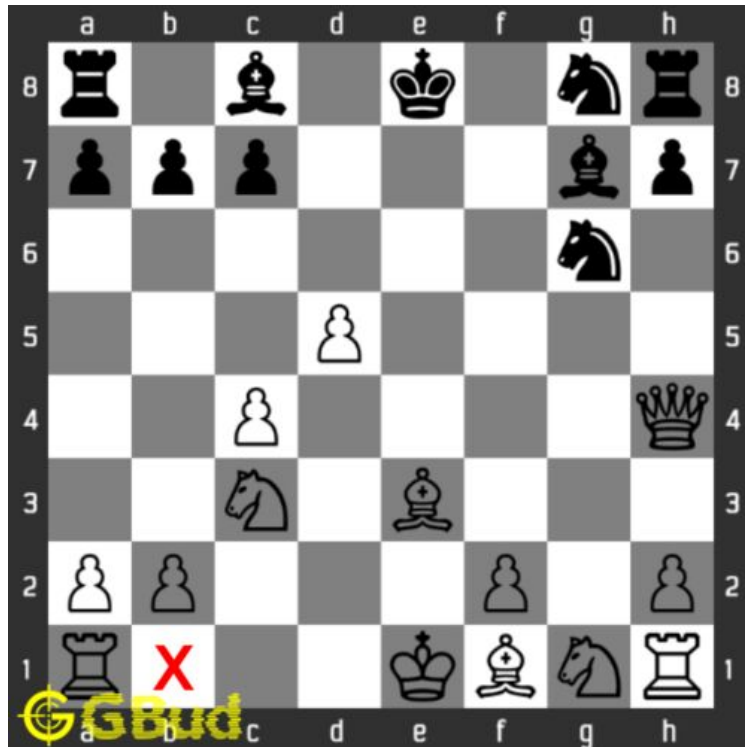


Figure 1.16: Pawn can not move backwards

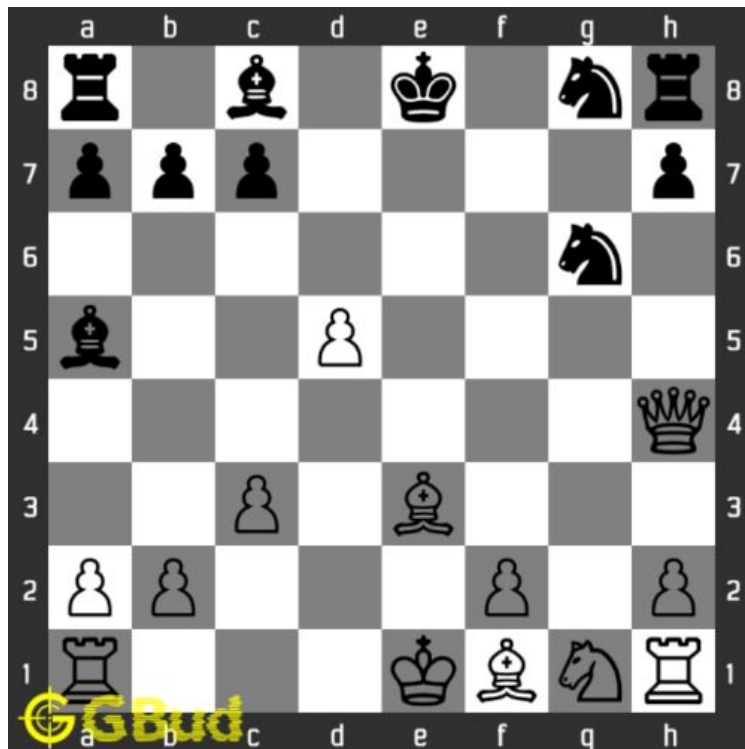


Figure 1.17: White pawn pinned to king

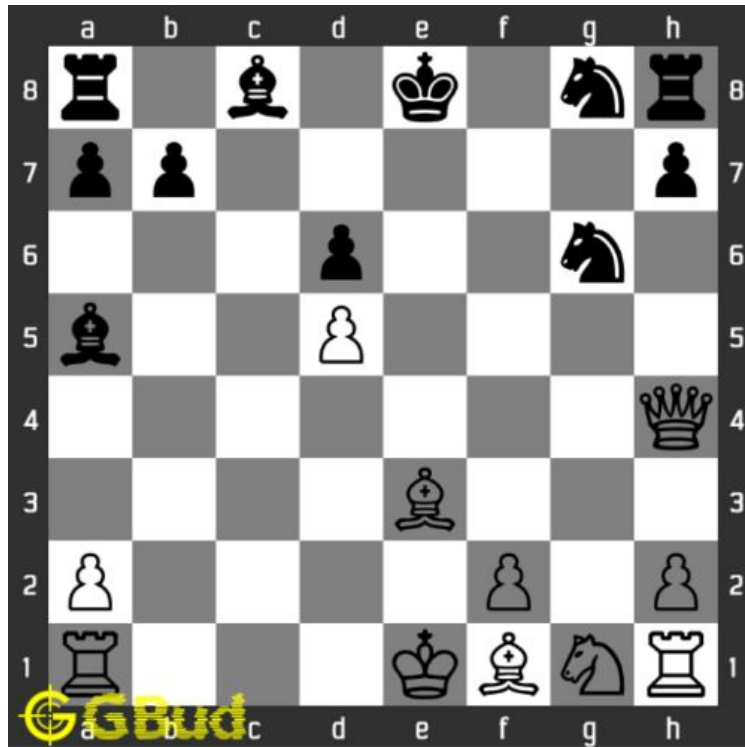


Figure 1.18: Pawn can not jump over pieces

Pawn has special moves such as [en passant capture](#) or [promotion](#). Pawn can't move if the destination is not empty. When a pawn reaches its last rank, it is promoted to a piece of players choice, which is called promotion. A pawn can't move backwards. The pawn captures opponents piece that is diagonally opposite.

1.7 Initial moves available to white player

1. [Pawn](#) from a2 to a3 - [a3](#)
2. [Pawn](#) from a2 to a4 - [a4](#)
3. [Pawn](#) from b2 to b3 - [b3](#)
4. [Pawn](#) from b2 to b4 - [b4](#)
5. [Pawn](#) from c2 to c3 - [c3](#)
6. [Pawn](#) from b2 to b4 - [c4](#)
7. [Pawn](#) from d2 to d3 - [d3](#)
8. [Pawn](#) from d2 to d4 - [d4](#)
9. [Pawn](#) from e2 to e3 - [e3](#)
10. [Pawn](#) from e2 to e4 - [e4](#)
11. [Pawn](#) from f2 to f3 - [f3](#)
12. [Pawn](#) from f2 to f4 - [f4](#)

13. Pawn from g2 to g3 - [g3](#)
14. Pawn from g2 to g4 - [g4](#)
15. Pawn from h2 to h3 - [h3](#)
16. Pawn from h2 to h4 - [h4](#)
17. [Knight](#) from b1 to a3 - [Na3](#)
18. Knight from b1 to c3 - [Nc3](#)
19. Knight from g1 to f3 - [Nf3](#)
20. Knight from g1 to h3 - [Nh3](#)

1.8 Special moves

Three special moves exist in chess games. They are [castling](#), [promotion](#) and [en passant capture](#).

1.8.1 Castling

In castling [King](#) moves two squares to its left or right i.e toward the [h file](#) or [a file](#), followed by the movement of [Rook](#) next to the king. Castling with rook at [file a](#) is called [queen side castling](#) and castling with rook at [file h](#) is called [king side castling](#). Restrictions exist when castling is allowed. Those restrictions are given below.

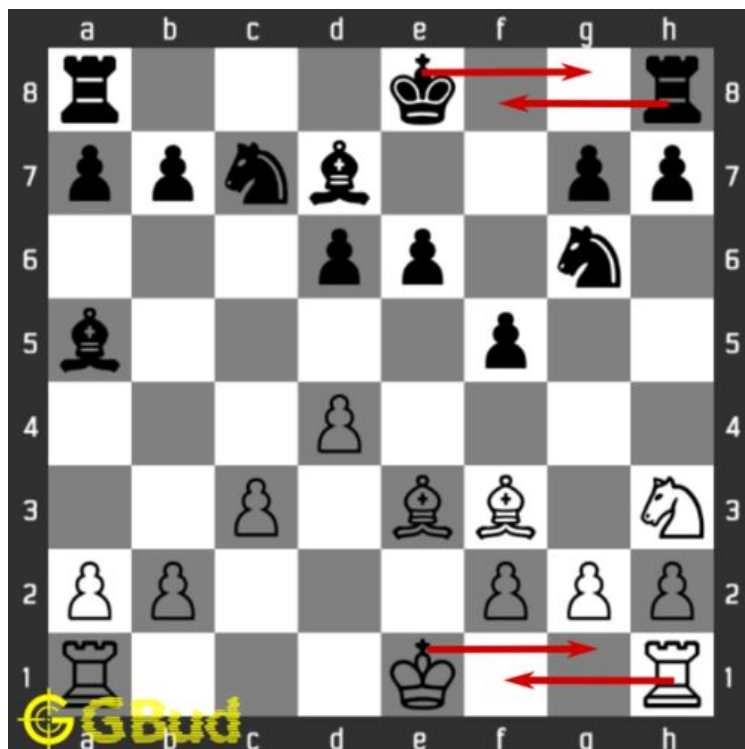


Figure 1.19: King side castling

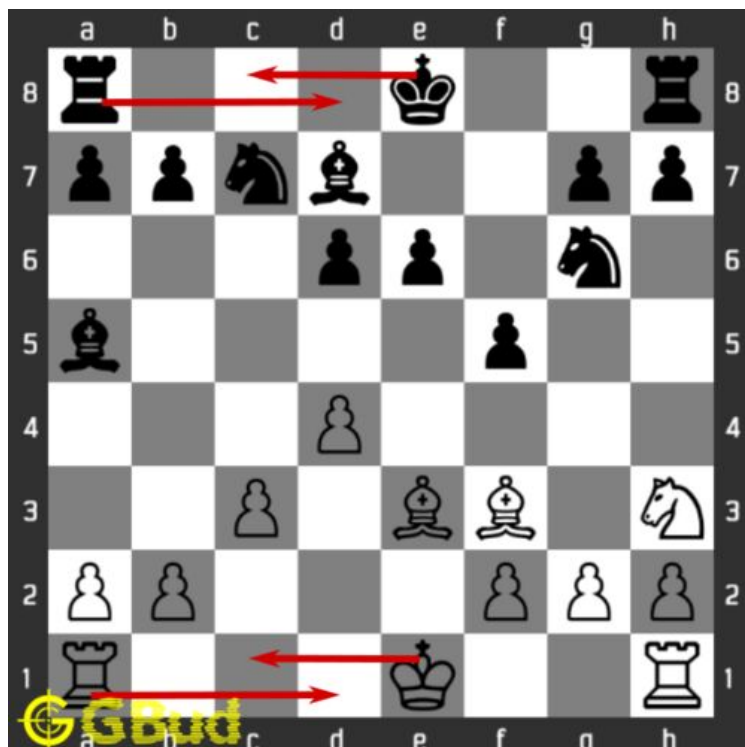


Figure 1.20: Queen side castling

1.8.1.1 Conditions for castling

1. Both king and rook must not have moved from their **default position** as shown in **Fig**
2. The **squares** between the king and rook must be **empty**
3. King should not fall under **check** during the castling as shown in **Fig**
4. Castling can not be done when the **king is in check**

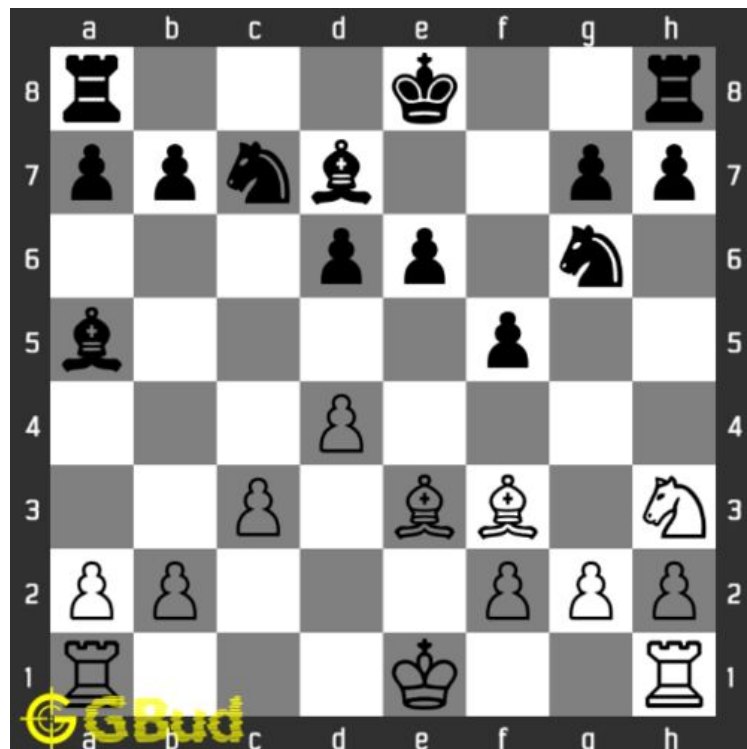


Figure 1.21: Castling condition : King and rook must not have moved



Figure 1.22: Castling condition : Squares between king and rook must be empty



Figure 1.23: Castling condition : King should not fall on check during movement



Figure 1.24: Castling condition : No castling is allowed when the king is in check

1.8.2 En passant capture

The pawn also captures the enemies pawn on the left or right column, when the opponents pawn moves by 2 squares and crosses square which can be attacked by your pawn. This is called en passant capture. The pawn at d7 moves to d5 [before en passant capture](#). This movement crosses the square d6 which could be attacked by the white [pawn at c5](#). This enables the enpassant capture and the white pawn at c5 moves to d6 and captures the pawn at d5. This is called en passant capture and results in this [board position after en passant capture](#)

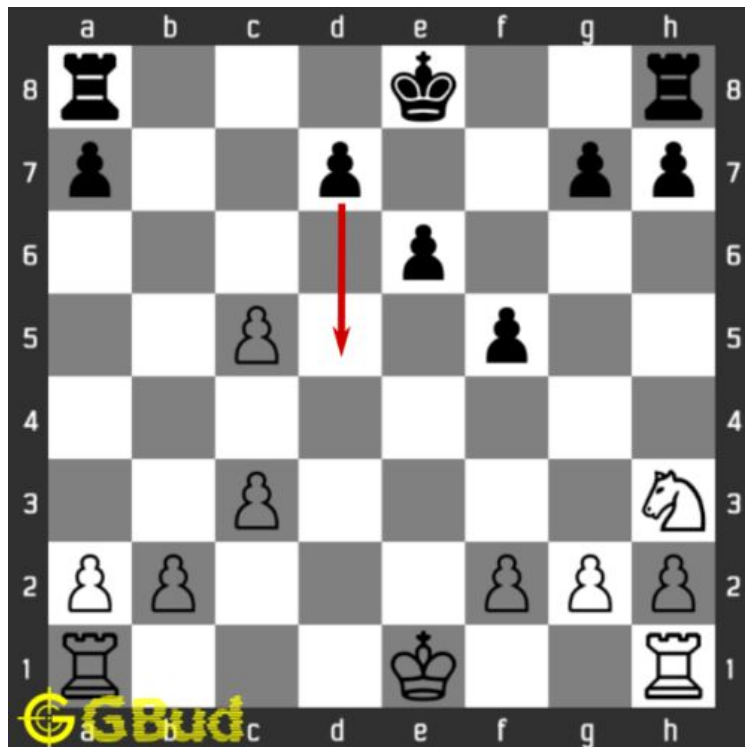


Figure 1.25: Before En passant capture move



Figure 1.26: En passant capture move

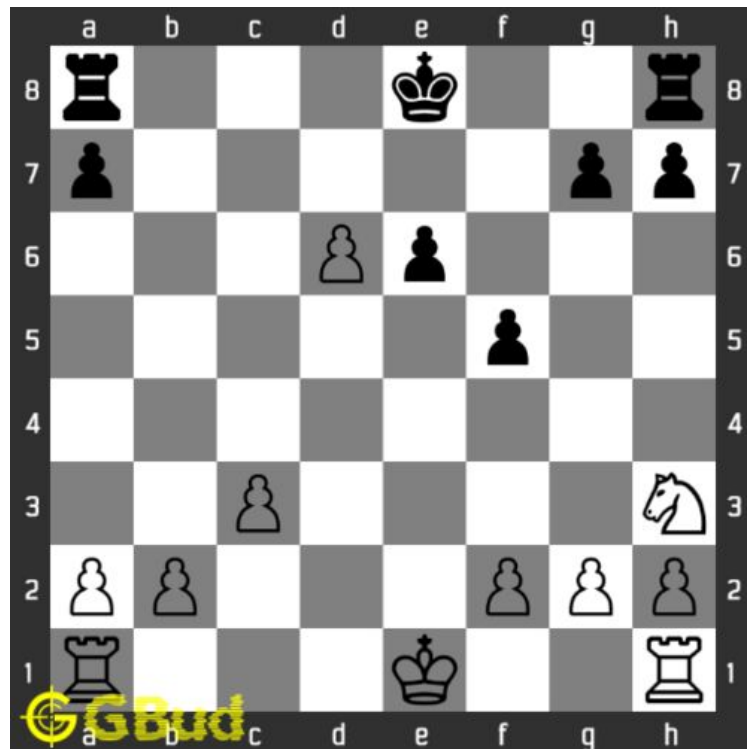


Figure 1.27: After En passant capture move

1.8.3 Promotion

When the **Pawn** advances to the **eighth rank** it is promoted to a high value **piece** such as **Queen**, **Rook**, **Knight** and **Bishop**. In a scenario where eight pawns are promoted, there will be a possibility of nine queens, ten rooks, ten knights or ten bishops. For example, the **pawn at b2** advances to b1 and **promoted** to a queen.



Figure 1.28: Before promotion

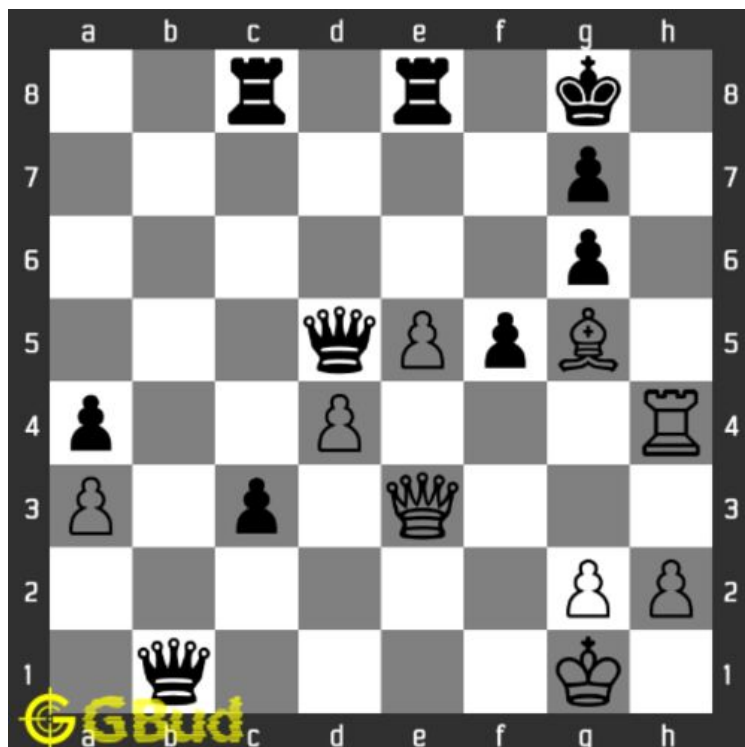


Figure 1.29: After promotion

1.9 Half move

A half move is used to identify a single move of one player. This is different from [full move](#)

1.10 Full move

Full move consists of a single move from both players. For example, in case of twenty full moves, each player would have moved twenty times. The total number of moves in the game so far is forty. This is different from [half move](#)

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