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Diagonal mirroring mirrors all [pieces](#) along the [main diagonal](#) or [main anti-diagonal](#). It is applicable in pawn-less [endgames](#) with [castling](#) no longer possible. Along with [horizontal](#) and/or [vertical flipping](#), diagonal mirroring is used in pawn-less [endgame tablebases](#) to restrict a white king to the 10 squares of the a1-d4-d1 triangle of the board.

Sample Position

Original	Diagonal Mirror	Anti-Diagonal
k7/8/NK2B3/8/8/8/8 /8 w - -	8/8/8/5B2/8/8/5K2/5 N1k w - -	k1N5/2K5/8/8/2B5/ 8/8/8 w - -

Mirroring an 8x8 Board

An [8x8 Board](#) with a [rank-file mapping](#) needs to swap [rank](#) and [file](#). A pure 8x8 Board may be mirrored along the main diagonal that way in [C](#):

```
int board[64], f, r, sm, sq, s;  
  
for (f = 1; f < 8; ++f)  
for (r = 0; r < f; ++r)  
{
```

```
sq = 8*r + f;  
sm = 8*f + r;  
s = board[sq];  
board[sq] = board[sm];  
board[sm] = s;  
}
```

See also

- [Color Flipping](#)
- [Flipping, Mirroring and Rotating](#) of [Bitboards](#)
- [Horizontal Mirroring](#)
- [Vertical Flipping](#)

External Links

- [Mirror from Wikipedia](#)
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- [Reflection \(mathematics\) from Wikipedia](#)
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