Step-1

Given *B* is invertiable

$$\Rightarrow B^{-1}$$
 exists such that $BB^{-1} = B^{-1}B = I$.

Let us consider
$$AB = I(AB)$$

$$=(B^{-1}B)(AB)$$

$$=B^{-1}\left(BA\right) B$$

Therefore BA is similar to AB.