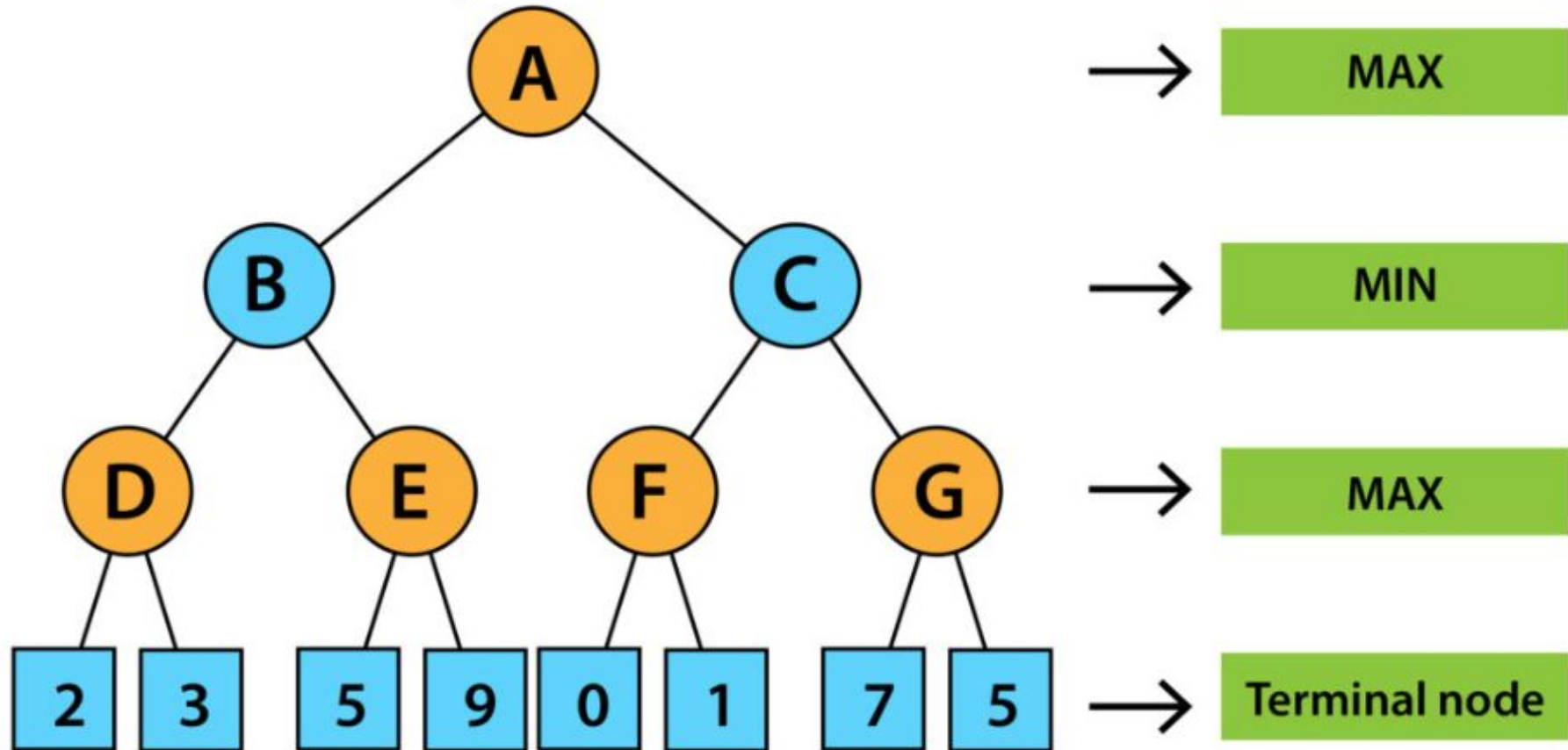


Alpha Beta Pruning

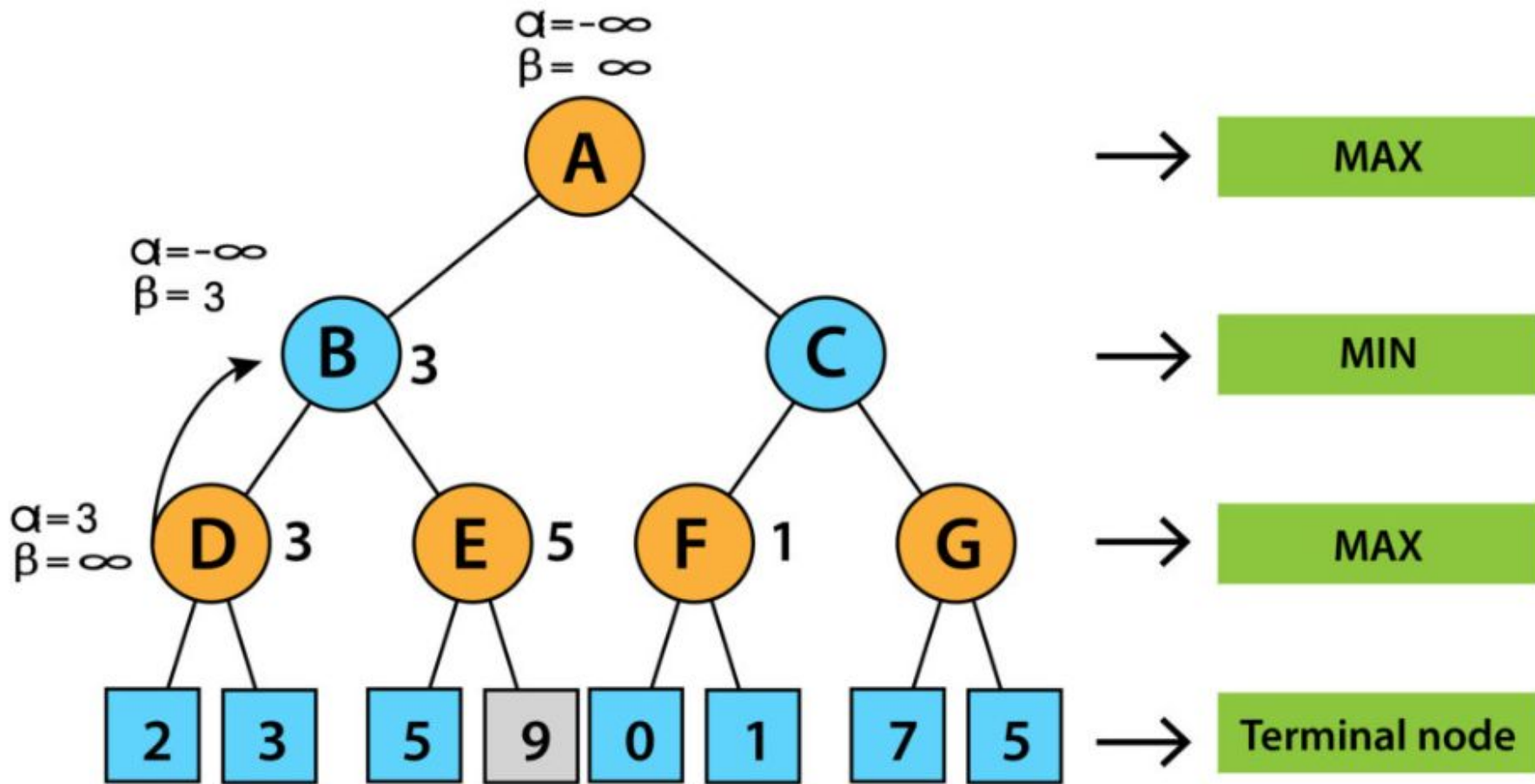
- Modified version of minmax algorithm
- It reduces computation time
- It cuts off branches in the game tree which need not be searched because there already exists a better move available.
- It is called Alpha-Beta pruning because it passes 2 extra parameters in the minimax function, namely alpha and beta.
- **Alpha** is the best value that the **maximizer** currently can guarantee at that level or above.
- **Beta** is the best value that the **minimizer** currently can guarantee at that level or below.

Example:1

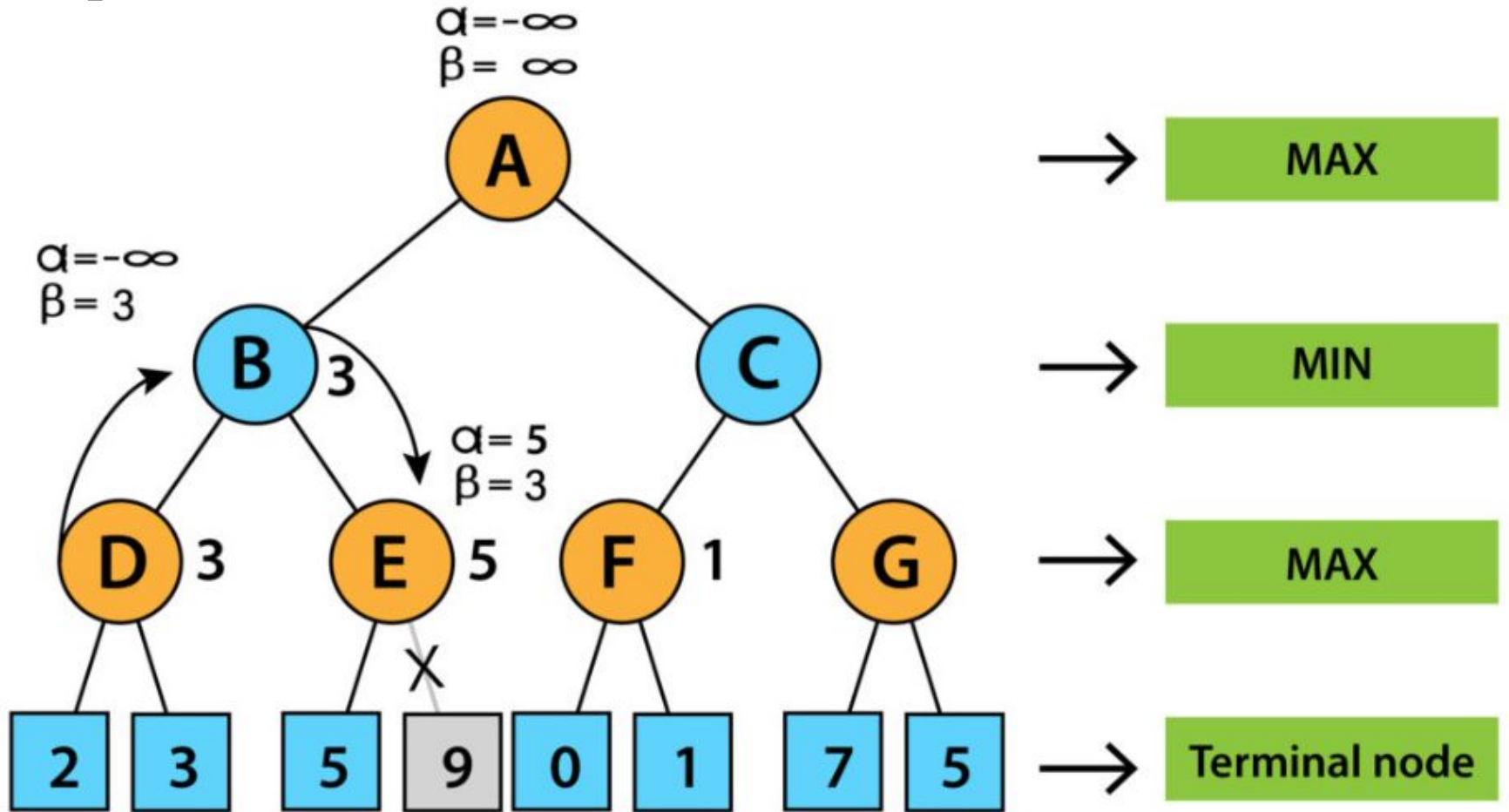
$$\alpha = -\infty$$
$$\beta = \infty$$



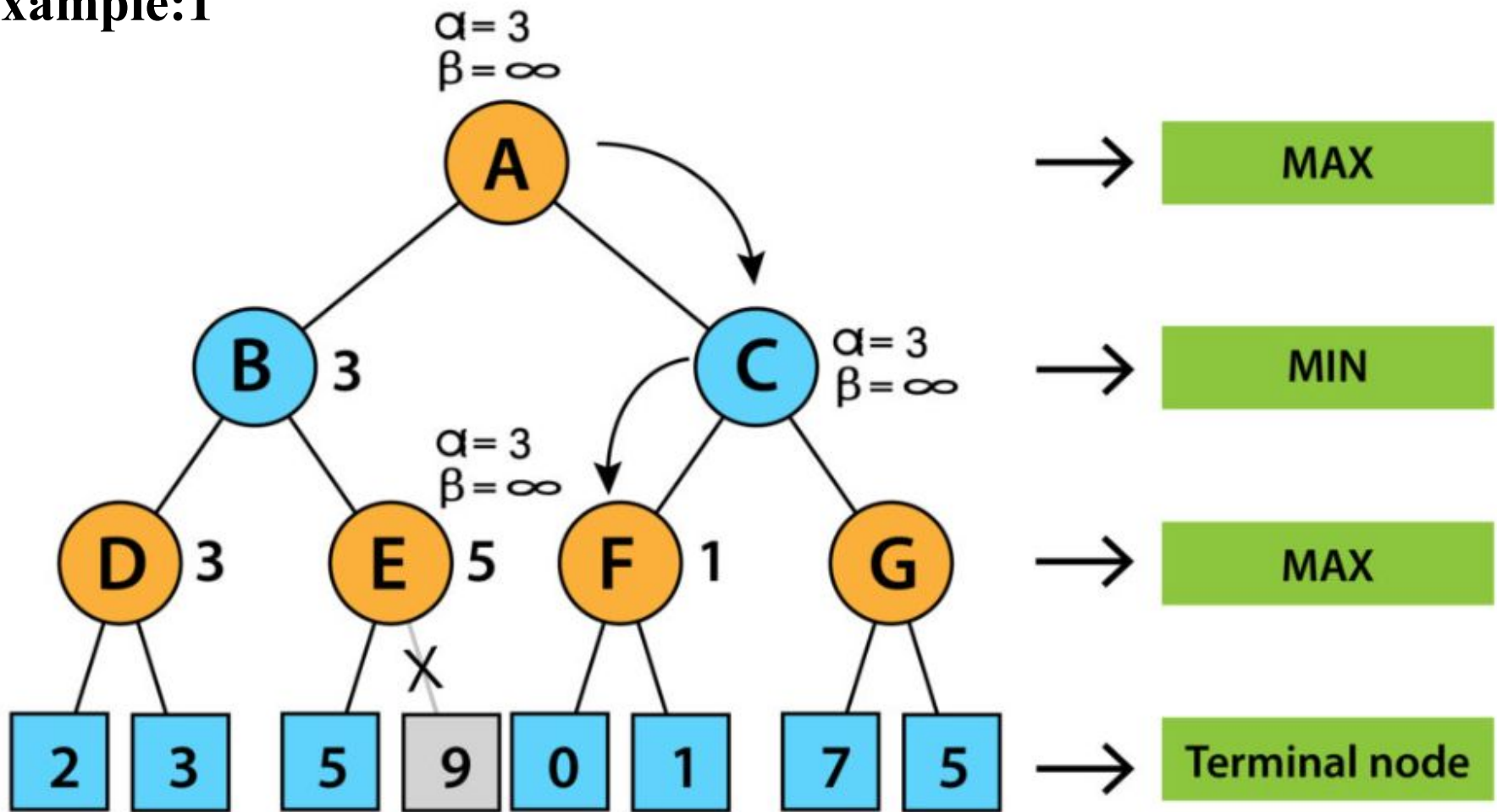
Example:1



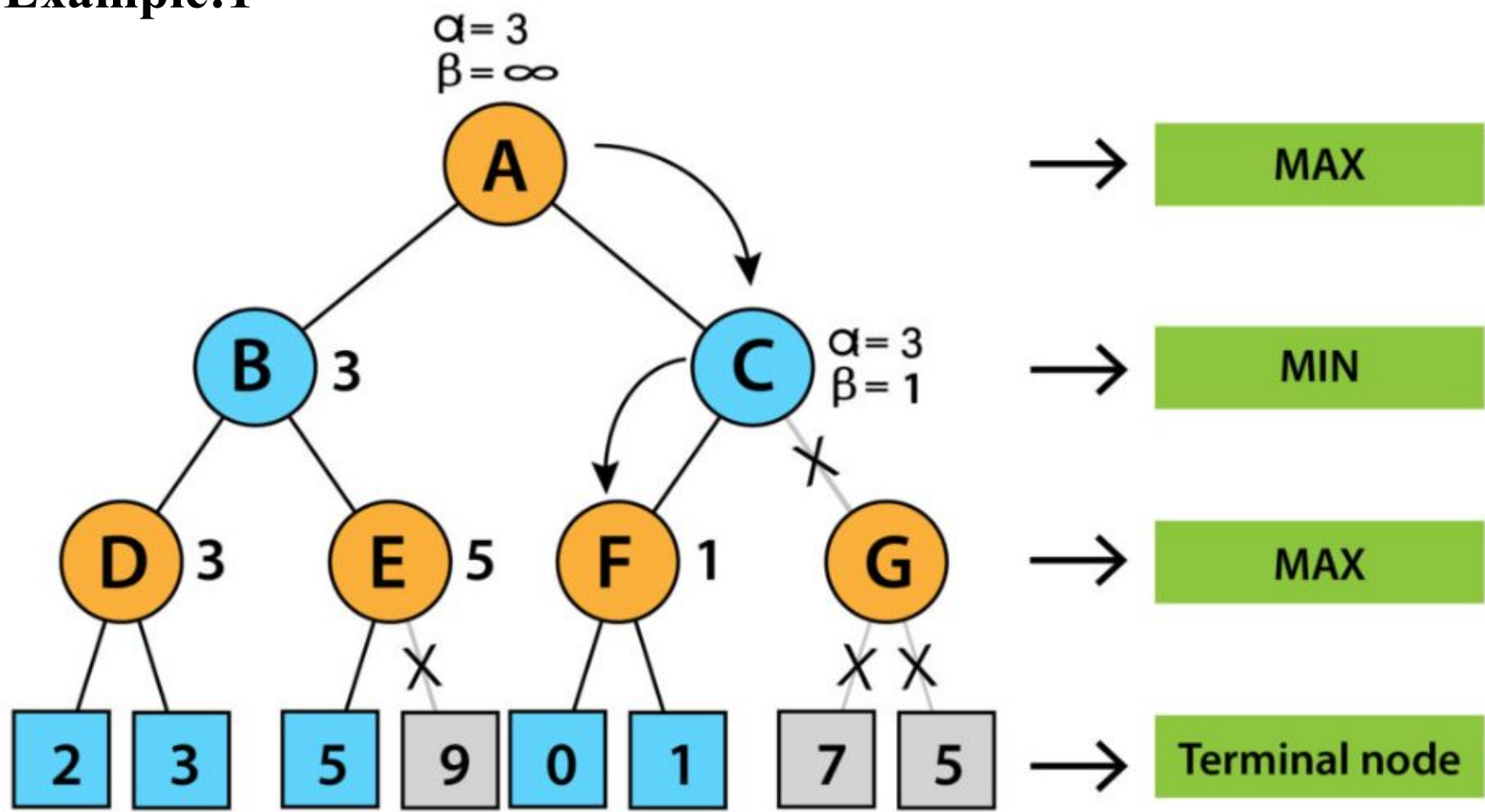
Example:1



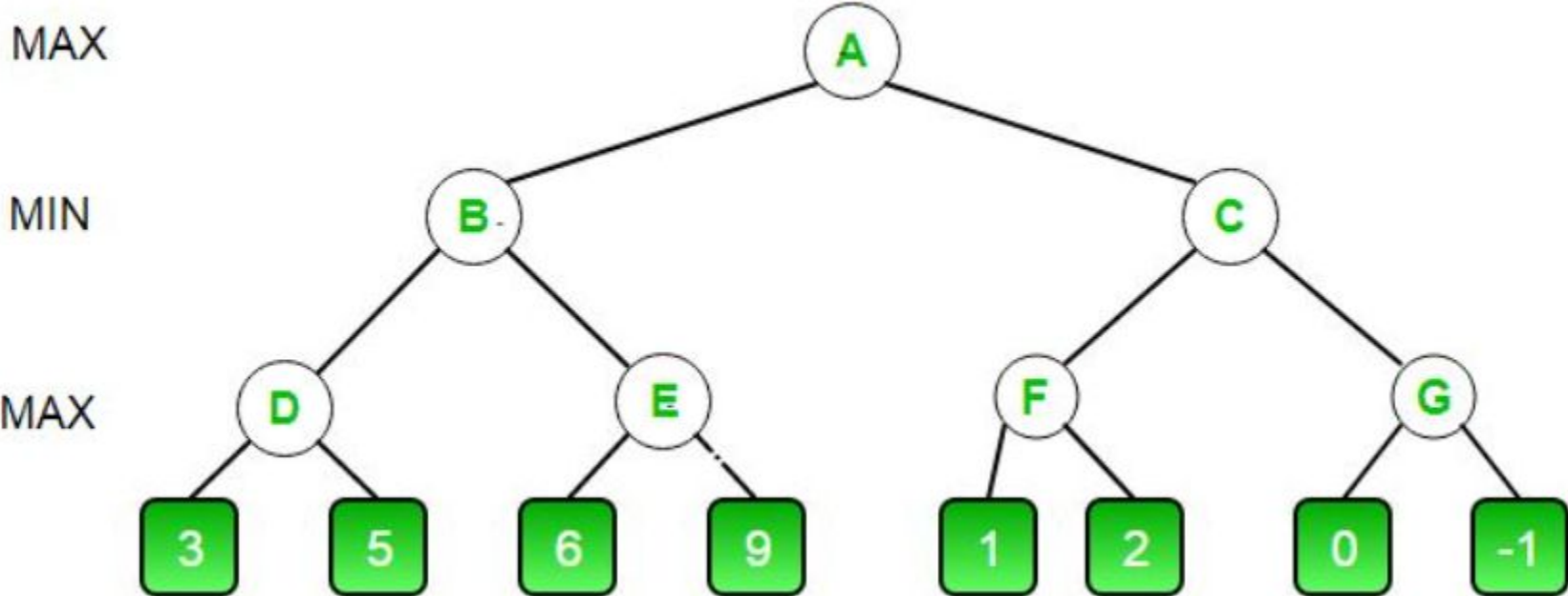
Example:1



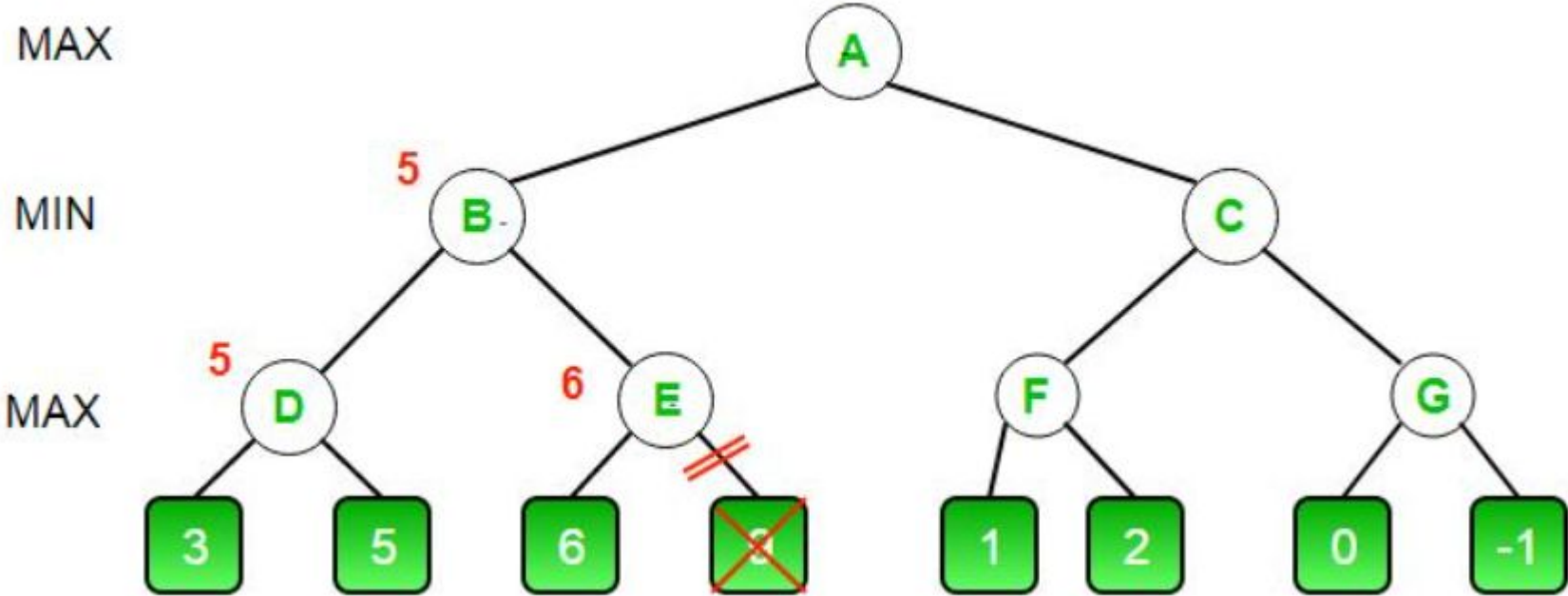
Example:1



Example:2



Example:3



Example:2

