SoulShift

SoulShift – Educational Q&A Platform

General Questions

Practice Questions

Q1. In a Red-Black tree, what happens when a red node is inserted as a child of another red node?

A. The tree remains valid.
B. The tree is immediately balanced.
C. A recoloring and rotation may be needed.
D. The insertion is not allowed.

Solution: When a red node is inserted as a child of another red node, a recoloring and possibly a rotation are needed to maintain the properties of the Red-Black tree.

Q2. What is the time complexity of searching for a value in a Red-Black tree?

A. O(n)
B. O(log n)
C. O(n log n)
D. O(1)

Solution: Searching for a value in a Red-Black tree takes O(log n) time due to its balanced structure.