Solved Exercise: DFS and BFS in Data Structures

Exercise:

Given the following tree, apply Depth First Search (DFS) and Breadth First Search (BFS) starting from node A.

Tree representation:
A
|-- B
| |-- D
| |-- E
|-- C

Solution:

1) Depth First Search (DFS)

DFS explores as deep as possible before backtracking. It uses a stack or recursion.
Steps: A → B → D → E → C

DFS Traversal Order:
A → B → D → E → C

2) Breadth First Search (BFS)

BFS explores nodes level by level. It uses a queue.
Steps: A → B → C → D → E

BFS Traversal Order:
A → B → C → D → E

Conclusion: DFS goes deep first, BFS finds the shortest path.