

## **“exo\_6”’s discussion part:**

7. “Whilst depth first can be implemented recursively, it is not recommended for breadth first! Explain why?”

Recursion uses the "Call Stack" of the computer, which is working on a LIFO (Last-In-First-Out) basis. This matches perfectly with DFS logic.

However, BFS requires processing levels sequentially like FIFO (First-In-First-Out). To do BFS recursively, we have to pass the entire queue of the current level to the next recursive call. This is inefficient because:

1. It consumes a lot of memory to store stack frames for each level.
2. It is unnatural for the Stack data structure. An iterative approach using an explicit Queue is much more memory efficient and faster for BFS.