STACK QUESTION ,

Why stack is good for undo, not fairness?

❖ Why Stack is Good for Undo?

- Undo operations are about reversing recent changes in the exact opposite order they were made.
- When you do something (like typing, drawing, or editing), that action is pushed onto a stack.
- When you hit undo, you want to remove the most recent action first—the last action done is the first to be undone.
- This fits the Last In, First Out (LIFO**)** property of a stack perfectly:
    - The last thing you did is the first thing you undo.
    - This ensures undo behaves intuitively and correctly.

❖ Why Stack Is NOT Good for Fairness

- Fairness usually means serving people or items in the order they arrived (First Come, First Served).
- A stack reverses the order because it always removes the most recently added item first.
- So if you use a stack for distributing something fairly, the last person to join would get served first, which is unfair.s
- To be fair, you need a Queue (First In, First Out), so the first person who arrived gets served first.

QUEUE QUESTION ,

Why FIFO avoids conflict in ID processing?

- **Maintains Arrival Order:** FIFO processes IDs exactly in the order people arrive, ensuring fairness.
- **Prevents Disputes:** Everyone knows their turn; no one jumps ahead, avoiding confusion.
- **Ensures Predictability:** Clear rules reduce frustration and arguments.

- **Simplifies Management:** Staff can handle requests linearly without errors or overlaps.
- **Fair Resource Allocation:** IDs are given out without favoritism or priority conflicts.