

REFLECTION QUESTION ON STACK AND QUEUE

Q1: why would a stack cause unfairness if use in bank?

Stack is last in last out in data structure that mean in real life the last person arrive in the bank is the first to be served.

In the bank, fairness usually means first in first served. If a bank used a stack to manage customer:

People who arrived early have to wait longer than those who arrived later, the last person who arrived later would get service first, this stack also will violate the principal of "bank usually promise the customers are treated in the order they arrived"

Example: Customer A arrives stack: [A], Customer B arrives stack: [A,B], Customer C arrives stack:[A,B,C] .then serve C first, B second and then A last. A waited the longest but get served last.

Q2: Why FIFO ensure equality in service and delivery?

Order of arrival= order of service: the person who came first is served first, and the one who comes after waits their turn, nobody can "jump the line" which make the process fair and transparenence.

No favoritism: the server does not choose based on personal preference, status, or influence. every client get the same treatment, only determined by when they arrived.

Avoid discrimination: treat all request the same, regardless of who is behind them. equality is guaranteed because priority is based only on arrival time, not on who the person is.

Predictability: everyone in the queue knows that, as long as they wait, they will be served in their return, this build the trust in the system.

Example: At bank counter, if 5 client line up, the one who entered first will always be served first, not skipped because of wealth, physical appearance, connections. This Is how the FIFO keeps service fair and equal.