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I) Discuss the four questions encountered at the campuses of universities in Rwanda at a given time. Choose one of these questions, explore it deeply, and provide strategies for addressing it using an algorithm.

ANSWER:

1. Many new students face issues in the library because they have poor information about where to find books for reading. This makes it difficult for them to review some modules they have studied.

2. The issue of room insufficiency was difficult when we first arrived on campus. This time, there were not enough accommodations within the campus, so students struggled to find housing in the ghetto outside the campus. Subsequently, the leadership announced that all ICT students would be relocating to Gikondo Campus. This problem presented a significant challenge for students, as they would have to travel a long distance from Nyarugenge to Gikondo Campus.

3. Poor communication. This issue arose among the students because it was their first time on campus. Since there were no established relationships or friendships, communication between them was limited. As a result, it was difficult for them to find places to study.

4. Water is insufficient when you wake up in the morning, especially on Saturdays. You want to take a shower, wash your clothes or shoes, and have drinking water. This is tough in situations like this.

In our group, we discussed question number 4, which addresses the issue of water problems. We explored various solutions to fix these issues using algorithms such as natural language and flowcharts as follows:

Start

Step 1: Check Tank Status:

- **Action:** Look into the tank or check the water level indicator (tool used to determine if there is water in the tank or no water).
- **Decision:** Is there **water** in the tank?

  If **NO** (Tank is Empty/Low), proceed to **Step 2 (Fill Tank)**.

  . If **YES** (Tank has water), proceed to **Step 3 (Check Pipe)**.

Step 2: Fill Tank:

- **Action: Fill the tank** with water (e.g., turn on the pump or open the main supply).
- **Next Step:** Proceed to **Step 5 (Fetch Water)**.

Step 3: Check Pipe Operation:

- **Action:** Check if the **pipe** (that carries water from the tank) is functioning correctly (i.e., is water flowing out of it).
- **Decision:** Is the pipe **working**?
  - If **NO** (Pipe is blocked or broken) **proceed to step 4 (Call Plumber Pipe)**.
  - If **YES** (Water is flowing through the pipe), proceed to **Step 5 (Check Key)**.

Step 4: Call Plumber - Pipe Issue:

- **Action: Call the plumber** immediately to fix the faulty pipe.
- **Next Step:** Proceed to **Step 7 (Stop)**.

Step 5: Check Key Operation:

- **Action:** Check if the **key** (faucet/tap) at the point of use is functioning correctly (i.e., does turning it release water).
- **Decision:** Is the key **working**?

- If **NO** (Key is stuck or leaking), proceed to **Step 5 (Call Plumber - Key)**.
- If **YES** (Water comes out when the key is turned), proceed to **Step 7 (Fetch Water)**.

Step 6: Fetch Water:

- **Action: Fetch/Use the water** as intended.
- **Next Step:** Proceed to **Step 8 (Stop)**.

Stop

Flow chart