Model : ChaGPT o3-mini-high

--------- BEGIN CoT PROMPT --------

Prompt 1:

Explain the core ideas of Formal Concept Analysis (FCA) as if I were a programmer new to the topic. Cover:
1. What is a "formal context" (objects × attributes matrix)?
2. Define "formal concept" (extent + intent) with an example.
3. What properties must a valid concept satisfy?

Use this binary context as an example (rows=objects, cols=attributes):
Object 0: [1, 0, 1]
Object 1: [0, 1, 1]
Object 2: [1, 1, 0]

Prompt 2:

For the context above, I want to compute all formal concepts programmatically.
1. Compare NextClosure vs. Lindig's algorithm for this task. Which is simpler to implement in Java?
2. Provide pseudocode for the chosen algorithm, highlighting:
   - How to compute the closure of an attribute set.
   - How to generate concepts without duplicates.

Prompt 3:

Write a Java class `FormalConceptAnalyzer` to be run on Eclipse IDE that:
1. Takes a CSV-coded context as a hardcoded path.
2. Uses the algorithm from Prompt 2 to find all concepts.
3. Represents each concept as:
   `List<Concept>`, you will choose the Concept class representation

Write your answer in one single Java bloc.

--------- END CoT PROMPT --------