Delos Reyes, Axcel Andrei V.
BSCS-3B

Part I. Conceptual Understanding

1. Define non-monotonic reasoning in your own words.
Non-monotonic reasoning is a type of logical thinking where conclusions can change when new information is added. It means that what we once believed to be true might no longer be valid after learning something new.

2. How does non-monotonic reasoning differ from monotonic reasoning?
In monotonic reasoning, once a conclusion is true, it always remains true even if new facts are introduced. In non-monotonic reasoning, conclusions can be revised or withdrawn when new, possibly conflicting, information appears.

3. Give a real-life situation where a conclusion must change after new information is added.
At first, I might think my friend is absent because they're lazy. But when I learn they're sick, my conclusion changes, now I know they're absent because they're not feeling well. The new information changed my original belief.

4. What is a default rule? Provide one example.
A default rule is an assumption that is usually true unless there's evidence that proves otherwise.
Example: "Birds can fly." This rule works in general, but it has exceptions like penguins or ostriches.

5. How do argumentation frameworks help AI systems decide between conflicting rules?
Argumentation frameworks let AI compare different arguments and decide which one is stronger or more specific. When two rules conflict, the system can choose the one that fits the situation best, just like how "penguins can't fly" defeats "birds can fly."