Part I. Conceptual Understanding

Answer the following questions briefly but clearly. Each question is worth 4 points.

1. Define non-monotonic reasoning in your own words.

Non-monotonic reasoning is when adding new information can make previous conclusions invalid.

2. How does non-monotonic reasoning differ from monotonic reasoning?

Monotonic reasoning can change any derivations from the knowledge base when new facts are added. In Non-monotonic reasoning however, new facts cause previous conclusions to be dismissed.

3. Give a real-life situation where a conclusion must change after new information is added.

You conclude that “the students are early”. When you learn that there was a traffic jam, the previous conclusion is withdrawn as the new information changes the conclusion.

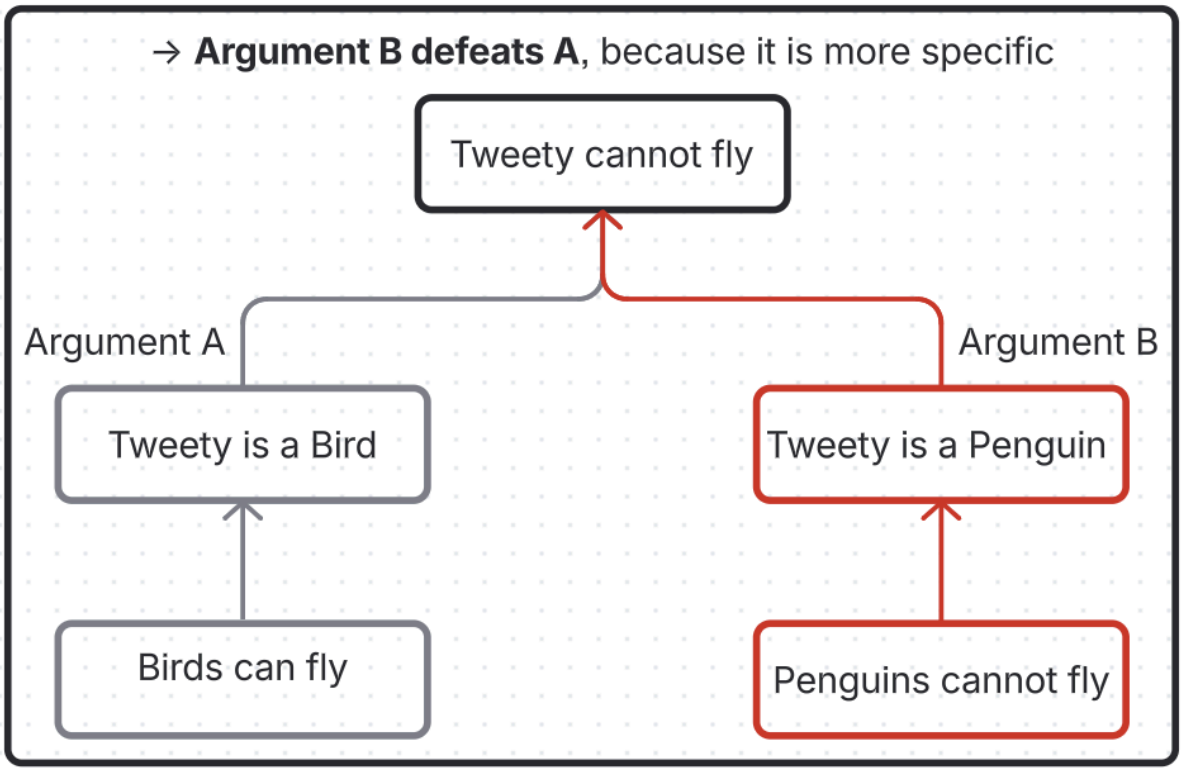
4. What is the default rule? Provide one example.

The default rule is a rule that is applied in absence of information and is an assumption. An example is: "The weather is usually sunny".

5. How do argumentation frameworks help AI systems decide between conflicting rules?

Argumentation frameworks help AI determine which rule overrides the other. By modeling which rule or argument is above others, the AI can choose which arguments to take and allow rule conflicts to be resolved.

Part 2 - Task 2



Part 3

I once concluded that AI are usually trained with data from consenting parties, so I tried an AI image generator. Once I saw the models available, I recognized most of the styles used for some as identical to artists I closely follow who disapprove of their works being used for AI Training, that was when my previous conclusion of AI being trained with data from parties who gave their permission to be false. I changed my conclusion to: AI is not always trained with data from consenting parties. This is similar to non-monotonic reasoning in AI, as my current beliefs come from incomplete knowledge and reach a default conclusion before learning new information. Once I learned this new information, I dismissed my previous conclusion and reached a new one based on the new information. Similar to how AI uses rules, priorities and exceptions to reach conclusions that change once new facts are introduced.