# Exercises in Propositional Logic

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# Exercise 1

For each of these sets of premises, what relevant conclusion or conclusions can be drawn? Explain the rules of inference used to obtain each conclusion from the premises:

(a) "If I eat spicy foods, then I have strange dreams." "I have strange dreams if there is thunder while I sleep." "I did not have strange dreams."

(b) "I am dreaming or hallucinating." "I am not dreaming." "If I am hallucinating, I see elephants running down the road."

(c) "If I work, it is either sunny or partly sunny." "I worked last Monday or I worked last Friday." "It was not sunny on Tuesday." "It was not partly sunny on Friday."

# Exercise 2

Implement and check the satisfiability of the solutions of the previous exercise (a, b, c) with a least one of the tools introduces in the lecture Reasoning in Propositional Logic.