PRINCIPLES OF ARTIFICIAL INTELLIGENCE LAB – EXPERIMENT 7:BACKWARD CHAINING

Knowledge Base (Rules in IF-THEN format) knowledge_base = {

"flu": [["cough", "fever"]],

"fever": [["sore_throat"]],

}

Known facts facts =

{"sore_throat", "cough"}

Backward chaining

function def

backward_chaining(goal):

if goal in facts: # If the goal is a known fact, return True

return True if goal in knowledge_base: # If the goal has rules in

KB for conditions in knowledge_base[goal]: # Check each

rule if all(backward_chaining(cond) for cond in conditions): #

Recursively verify

return True return False # If no rule or fact

supports the goal, return False

Query: Does the patient have flu?

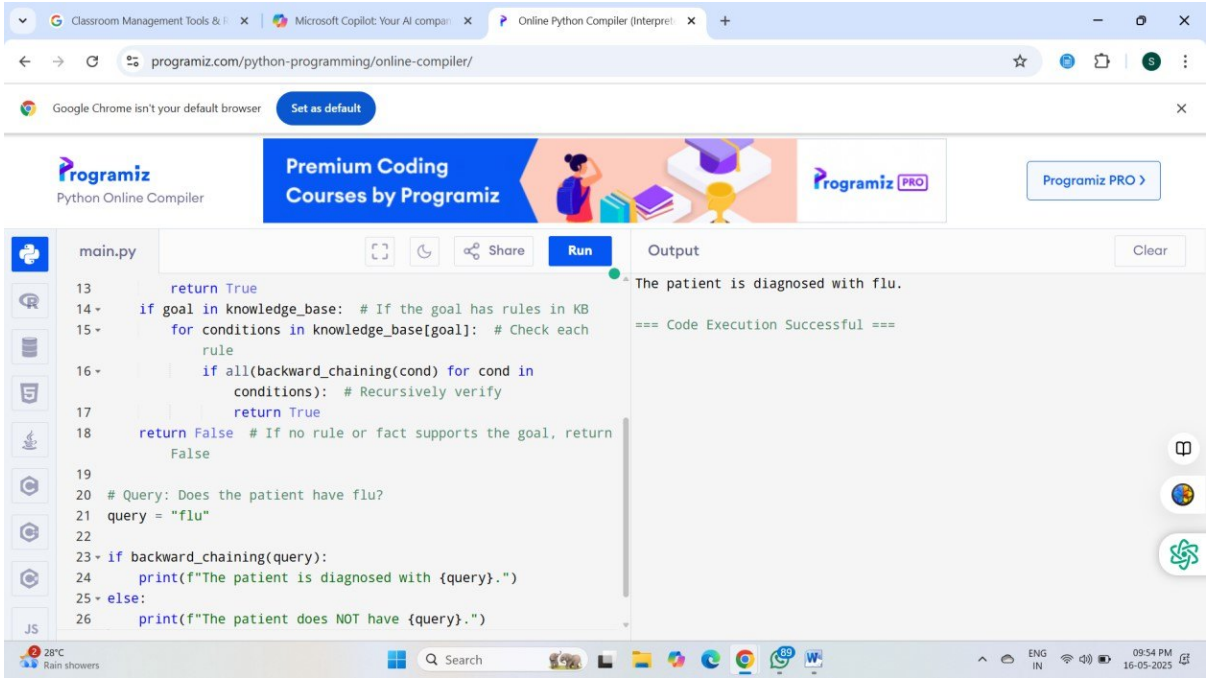
query = "flu"

if backward_chaining(query):

print(f"The patient is diagnosed with {query}.")

else: print(f"The patient does NOT

have {query}.")



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