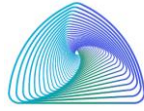


1. A sensor reports "**Temperature = 40°C**". This reading by itself is best classified as:
 - A. Knowledge, because it refers to a real value
 - B. Information, because it has context and a label but has not been interpreted
 - C. A belief, because the sensor accepts it as true
 - D. A proposition, because it can be true or false
2. Which statement below counts as knowledge rather than mere **information**?
 - A. Temperature = 40°C
 - B. 40
 - C. High temperature causes discomfort
 - D. °C
3. **40°C is hot** is an example of which term?
 - A. Declarative sentence only, never a proposition
 - B. A proposition — a statement about the world that can be true or false
 - C. A knowledge base
 - D. An inference rule
4. Which of the following is **NOT** a **declarative sentence**?
 - A. The temperature is high.
 - B. Close the window.
 - C. 40°C is dangerous.
 - D. HighTemp(40).
5. A system stores the proposition **40°C is hot** and uses it to act — even though, say, 40°C is not dangerously hot for that particular room. **This stored proposition is best called:**
 - A. A belief, because it is accepted as true whether or not it is correct
 - B. A knowledge base, because it contains one fact
 - C. An entailment, because it follows necessarily from a rule
 - D. Information, because it has not yet been interpreted
6. Given only the two facts **parent(ali, sara)**. and **parent(sara, omar)**. with no grandparent rule linking them, what can the system conclude about Ali and Omar?
 - A. That Ali is Omar's grandparent, automatically
 - B. Nothing — the facts remain isolated until a rule structurally connects them
 - C. That Sara is irrelevant to the relationship
 - D. That the facts are propositions but not declarative sentences
7. What is a **Knowledge Base (KB)**?
 - A. A set of instructions telling the system what to do, step by step
 - B. A structured collection of explicitly represented knowledge — it tells the system what is true, not what to do
 - C. Any single proposition stored in memory
 - D. A program that only prints results without reasoning
8. **Blood pressure of 180/120 is high. High blood pressure is dangerous. Therefore, this patient's blood pressure is dangerous.** This whole process is called:
 - A. Information
 - B. Reasoning — deriving new knowledge from existing knowledge
 - C. A knowledge base
 - D. A declarative sentence
9. What is the **main difference** between logical inference and logical entailment?
 - A. They mean exactly the same thing.
 - B. Inference is the process of using rules to reach a conclusion, while entailment means that the conclusion must be true if the premises are true.
 - C. Entailment is used only in Prolog programs.
 - D. Inference always guarantees a true conclusion, while entailment is only an approximate rule.



10. A traffic management system concludes that **The road is congested** from its knowledge base, but it **fails to derive** another valid conclusion, **Recommend an alternative route**. This system is showing:
- A. A logical contradiction
 - B. Incomplete reasoning — it finds some correct conclusions but misses others that also follow from the knowledge base
 - C. An invalid knowledge base
 - D. A knowledge base containing no traffic facts