

Assignment1 – Epistemology

Given: Oct. 31

Problem 1.1 (JTB-Definition of Knowledge)

Consider the following scenario.

1. Smith and Jones have applied for a certain job.
2. The president of the company assured Smith that Jones would, in the end, be selected for the job.
3. Smith had counted ten coins in Jones' pocket ten minutes ago.
4. Thus Smith concludes that the man who gets the job has ten coins in his pocket.
5. In the end however, *unknown* to Smith, he himself, not Jones is selected for the job.
6. Also, *unknown* to Smith, he himself has ten coins in his pocket.

According to the *JTB-definition of knowledge*, does Smith know that his conclusion (statement 4 above) is *true*? Explain your answer.

Problem 1.2 (Most Certain Principle)

State Cresswell's *Most Certain Principle* and discuss why it is important in the LBS context (1–3 sentences).

Problem 1.3 (Syntax Tree)

Consider the following *production rules*:

- $$\begin{aligned} S1 : S &\rightarrow NP, V^t, \\ S2 : S &\rightarrow NP, V^t, NP, \\ N1 : NP &\rightarrow N_{pr}, \\ N2 : NP &\rightarrow the, N, \\ S3 : S &\rightarrow It\ is\ not\ the\ case\ that, S, \\ S4 : S &\rightarrow S, conj, S, \\ S5 : S &\rightarrow NP, is, NP, \\ S6 : S &\rightarrow NP, is, Adj \end{aligned}$$

Draw two *syntax trees* for the sentence *It is not the case that Joe is rude and Peter killed the cat.* according to the *structural rules* above; assume whatever *lexical rules* you need.

Problem 1.4 (Grammar from Data)

Write a context-free *grammar* that *accepts* the following *sentences*:

1. *There is a pit in sector e.*

2. *There is no pit in sector g.*
3. *There is an echo in sector f and there is no echo in sector a.*
4. *There are echoes in sectors f and g and there are no pits in sector c.*
5. *There is a pit in sector a or there are pits in sectors b and c.*
6. *There are no pits in sectors c, a, e and d and there is an echo in sector g.*

and *rejects* these:

1. *There is an pit in sector b.*
2. *There is an echo in sector b and.*
3. *There is a pit in sectors a.*
4. *There are pits in sectors d.*
5. *There are pits in sectors a, b and f, c.*
6. *There are pits in sectors g, a.*

Explain your *grammar* design.