PES University, Bangalore

Department of Computer Science and Engineering

Automata Formal Languages & Logic

QB for Propositional Logic- Knowledge Base AND Simple Inference Procedure

Problem:

1. **Define different type of sentences in Logic.**
2. **Define** different logical connectives and their meaning.
3. **What** do you understand by Tautology Or logically equivalent.
4. **Keeping** Wumpus world example in mind, Write the following statements in propositional logic.

- There is no pit in [1,1]
- The square $B_{1,1}$ is breezy iff there is pit in its neighboring squares $P_{1,2}$ or $P_{2,1}$.

5. **Convert the following verbal argument to the propositional form: -**

- Russia was a superior power, and either France was not strong or Napoleon made an error.
- Napoleon did not make an error, but if the army did not fail, then France was strong.
- The army failed and Russia was a superior power.

6. **Use a truth table to analyze the arguments.**

a. If there is a cream, then I will drink coffee.
b. If there is a donut, then I will drink coffee
c. There is no cream and there is a donut

Infer the conclusion

I drink coffee.