

## CS444 Resolution Exercises

1. Convert the following sentences into conjunctive normal form. Show all steps.

- $\neg(a \rightarrow b)$
- $a \rightarrow \neg(b \vee c)$

2. Consider the following knowledge base:

- If Bob studied, then he passed the exam and he graduated.
- If Bob overslept, then he did not pass the exam.
- Bob did not graduate.
- Bob overslept.

Construct a resolution proof showing that Bob did not study. Show all steps.