

1. If you like calculus then you are good at mathematics.
 $\forall X: \text{likes_calc}(X) \rightarrow \text{good_at_math}(X).$
2. If you like computer games then you should study a technical field.
 $\forall X: \text{likes_comp_games}(X) \rightarrow \text{study_tech}(X).$
3. If you should study a technical field and are good at mathematics or programming then you should study computer science.
 $\forall X: \text{study_tech}(X) \ \& \ (\text{good_at_math}(X) \vee \text{good_at_programming}(X)) \rightarrow \text{study_CSC}(X).$
4. If you should study a technical field and you like business then you should study business informatics.
 $\forall X: \text{study_tech}(X) \ \& \ \text{likes_business}(X) \rightarrow \text{study_BIS}(X).$
5. If you should study a technical field and you like operating systems then you should study computer information technology.
 $\forall X: \text{study_tech}(X) \ \& \ \text{likes_OS}(X) \rightarrow \text{study_CIT}(X).$
6. If you should study a technical field and you like art then you should study media informatics.
 $\forall X: \text{study_tech}(X) \ \& \ \text{likes_art}(X) \rightarrow \text{study_MIN}(X).$
7. If you study CSC or BIS then you will make a very good salary.
 $\forall X: \text{study_CSC}(X) \vee \text{study_BIS}(X) \rightarrow \text{verygoodsalary}(X).$
8. Jim likes calculus and computer games, will he make a very good salary?
 $\text{likes_calc}(\text{Jim})$
 $\text{likes_comp_games}(\text{Jim})$
 $\text{verygoodsalary}(\text{Jim})$????? – prove this by backward chaining (although you could also use forward chaining)
9. Bob likes computer games and operating systems. What field should he study?
 $\text{likes_comp_games}(\text{Bob})$
 $\text{likes_OS}(\text{Jim})$
 Use forward chaining.