Answer to GSAT Exercise

- Global minimum is
  $\neg A \wedge \neg B \wedge \neg C$
- If one defines the following constraints, there is a risk of settling in local minimum, $A \wedge B \wedge C$:
  (a) $A \vee \neg B$
  (b) $\neg A \vee B$
  (c) $B \vee \neg C$
  (d) $\neg B \vee C$
  (e) $\neg A \vee C$
  (f) $A \vee \neg C$
  (g) $\neg A \vee \neg B \vee \neg C$

- However, in the following formulation (not in CNF), one has only got plateaus, not local minimum
  1. $A \leftrightarrow B$
  2. $B \leftrightarrow C$
  3. $A \leftrightarrow C$
  4. $\neg A \wedge \neg B \wedge \neg C$
- This shows:
  - The significance of problem formulation
  - One potential drawback of formulating problems in SAT