Sample graph-plan problem (ungraded).

Consider the following planning problem:

Action(Make(x),
Precondition:
Effect: Have(x))

Action(Eat(x),
Precondition: Have(x),
Effect: ¬Have(x) ^ Full(x))

Initial state: ¬Have(Sandwich) ^ ¬Full(Sandwich)
Goal: Have(Sandwich) ^ Full(Sandwich)

[15 points] (1) Create the graph-plan until it converges. Show clearly all mutexes.

[5 points] (2) At what level, if any, is our goal possible? Explain why. Is the goal actually achievable at this level? Explain why again.

[10 points] (3) Give an example problem of when graph-plan will have no mutex between two relations/literals upon convergence, yet that pair of relations is impossible to satisfy simultaneously. You do not need to provide the full graph-plan, but you do need to support your answer.