

PROBLEM SET 2

COVER SHEET

OWEN TRUEBLOOD

SESSION LO3

COLLABORATION:

FOR THE FOLLOWING PROBLEMS
I WORKED ALONE USING ONLY THE
COURSE MATERIALS FROM THIS TERM.

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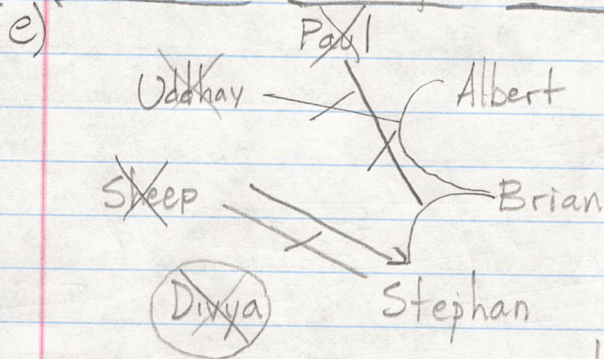
Problem Set 2 for 6.042

Problem 1

COLLABORATION: On problem 1 I collaborated with no one, and received help from Robert Sloan.

- a) There are at least 3 people in the cabal.
- b) Stephan and Sheep are not both in the cabal.
- c) If Divya is in the cabal then everyone is in the cabal.
- d) If Sheep is in the cabal then Stephan is too.
- e) If Brian or Albert are in the cabal then Uddhay is not.

f) If Brian or Stephan are in the cabal then Paul is not.



1) Sheep cannot be in the cabal because of b and d. If Sheep were in the cabal then by d Stephan would have to be too, but that contradicts b.

2) Divya cannot be in the cabal because of c. If Divya was in

then Sheep would have to be too, contradicting conclusion 1.

3) Choosing Uddhay would eliminate Albert and Brian because of e. Paul and Stephan remain but cannot coexist because of f. So it would only be possible for 2 to be in the cabal, which contradicts a. Therefore Uddhay is eliminated.

4) Choosing Paul would eliminate Brian and Stephan because of f. Only Albert would be left, preventing a from being satisfied. Therefore Paul is eliminated.

5) Albert, Brian, and Stephan satisfy all statements, and there are no other options.

Cabal is Albert, Brian, and Stephan.