CSE 103

(ASSIGNMENT FROM BOOK)

Student ID : 1705010

Chapter : 1

Section : 2

Problem No. : 39

QUESTION

Freedonia has fifty senators. Each senator is either honest or corrupt. Suppose you know that at least one of the Freedonian senators is honest and that, given any two Freedonian senators, at least one is corrupt. Based on these facts, can you determine how many Freedonian senators are honest and how many are corrupt? If so, what is the answer?

SOLUTION

It is clearly noted that , if any 2 senators are picked at least one is corrupt. So, there can't be two honest senator at a time. So, to ensure that , number of honest senator should be exactly 1 because then no pair can have 2 honest person at the same time.

So, the answer is that , number of honest senator is exactly 1 and the number of corrupt senator is 49. That sums up to 50.