

CSE 103

ST. ID : 1705001

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SUBJECT : ASSIGNMENT FROM BOOK

CHAPTER : 1

SECTION : 2

EXERCISE NO : 30

Exercises 30 relate to inhabitants of an island on which there are three kinds of people: knights who always tell the truth, knaves who always lie, and spies (called normals by Smullyan [Sm78]) who can either lie or tell the truth. You encounter three people, A, B, and C. You know one of these people is a knight, one is a knave, and one is a spy. Each of the three people knows the type of person each of the other two is. For each of these situations, if possible, determine whether there is a unique solution and determine who the knave, knight, and spy are. When there is no unique solution, list all possible solutions or state that there are no solutions.

A says "I am not the spy," B says "I am not the spy," and C says "A is the spy."

SOLUTIONS:

As the knave always tells a lie , so both A and B can not be knave because if so his(knave) statement would be true. C is the knave. Again as knave lied, so A must be a knight and left B would be a spy.

So here we have a unique solution.

A : knight

B : spy

C : knave