Roland Raught
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Scalable Data Infrastructures: Problem Solving

Socks in a drawer

There are 20 socks in a drawer: 5 pairs of black socks, 3 pairs of brown and 2 pairs of white. You select the socks in the dark and can check them only after a selection has been made. What is the smallest number of socks you need to select to guarantee getting the following:

1) Define the problem:

A. The man needs to pick out matching pairs of socks, there are ten different pairs of socks. He needs to match each pair according to color.
B. Assumption is the socks aren't paired and it is dark.

The goal is to select matching pairs of socks in the least amount of attempts.

2) Break the problem apart
A. He must correctly select pairs according to color and not make and mismatched pairs of socks.
B. Correctly select each pair on the first attempt

3) Identify potential solutions
A. To correctly pick the minimum of each pair her must make sure each sock is picked on the first try.

4) **Evaluate each solution**
A. The solution will be effective as long as he correctly selects each one.

5) Choose solution and implement it
A. The solution I will implement is to pull one sock at a time and match them up with each color until I am finished. This sounds complex but you will pull the same amount of socks to get every pair matched since it is dark.