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Scalable Data Infrastructures

Problem Solving.

**A Cat, a Parrot, and a Bag of Seed:**

A Man needs to transport three items and himself across a river in boat that can only carry him and one item, this is the first constraint and the second constraint is two of the specific items cannot be left by themselves.

**Possible Solutions;**

If the parrot can fly there is no need to transport the bird,

If the man can swim there is no need for him to travel in the boat.

If the bag of seed can float there is no need carry it on the boat.

The second solution seems most applicable, load the boat with cat and bag of seeds and the man swim alongside boat to transport them across the river leaving the parrot behind since the parrot and seeds or parrot and cat cannot be left together, then go back for the parrot and transport the parrot and himself in the boat across.

**Socks in the Dark:**

I need to select one matching pair of socks in the dark from a draw with 20 socks in a draw with 5 pairs of black, 3 pairs of brown and 2 pairs of white,

I also need to select one matching pair of each color in the dark.

**Solution;**

For solution one I would need to select 5 socks in the dark to have at least one matching.

For solution two I would need to select 10 socks in the dark have at least one matching pair of each color.