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Section 2

Problem Solving

May 7th, 2013

Part I: A Cat, a Parrot, and a Bag of Seed

1. Defining the problem:

Obviously the main problem here is that the man has more items than he can fit in his boat. Beyond this, the riddle seems to be mixed up. It talks about a goat and cabbage. I assume this is a typo.

The goal obviously is to get the seed and animals across the river in one piece without them eating each other or the parrot eating the seed.

2. Breaking the problem apart:

The constraints in this problem are quite simple; each item can only be left with a specific item. If it is left with the wrong one, it will eat that item. The other constraint is the size of the boat, as it only fits one item or animal at a time.

The main sub-goal is to get the animals across the river without having them eating one another.

3. Identifying possible solutions:

For the constraints listed above, I think the obvious solution is proper ordering of moving the items. Also, the riddle doesn’t state anything about moving things back to the starting point being against the rules. That being said I think the proper solution is to carefully plan which items go back and forth to avoid any of them being eaten.