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Class: Web Programming Fundamentals

Assignment: Problem Solving

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

1. The problem is that the man needs to get the cat, parrot and the bag of seed across to the other side of the river on his boat; however, his boat will only allow him to take one at a time. He’s afraid that if he leaves the cat with the parrot, the cat will eat the parrot, and if he leaves the parrot with the bag of seeds, the parrot will eat the bag of seeds. He also has to avoid this problem at the other side of the river when he transports them over. The goal is to transport all of them over without losing any of them.
2. The constraints are only one item can be taken on the boat at a time, the parrot cannot be left with the bag of seeds, and the cat cannot be left with the parrot. The sub-goals are to take the cat to the other side of the river, to take the parrot to the other side of the river without eating the bag of seeds or being eaten by the cat, and to take the bag of seeds across without being eaten by the parrot.
3. The possible solutions for the sub goals are to take the parrot, leaving the cat with the bag of seeds. Take the cat leaving the bag of seeds, bring the parrot back and take the bag of seeds, leaving the cat with the bag of seeds again. Go back and get the parrot.
4. These solutions all meet the goals, and work in all cases.