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**Web Programming Fundamentals**

**Problem Solving**

**A Cat, a parrot, and a Bag of Seed**

1.

a) Problem is the animals need to get to other side but cannot be left with other that will eat them.

b) Insight I can offer is I need to find pairings that can work with each of the animals.

c) The goal is to get everyone to the other side of the river

2.

a) Constraints are animals will eat each other if left alone in wrong pair

b) Sub goals are to find right pairing of animals and seed within pairs in boat

3.

a) Find pairing to travel ….Cat and man, seed and man, parrot and man

4.

a) Found potential solution to pair traveling and they meet goal of not being left with wrong pair

5.

a) The solution would be that the man and the parrot would travel first. The man then would go back to get the cat, upon leaving cat on other side he would take the parrot back with him. He would then leave the parrot and take the seed to the other side. He would have the cat and the seed on one side. His final trip would be taking the parrot to the other side.

b) Tried to take one at a time but it would leave impossible pairing on either side.

**Socks in the dark**

1. The problem is you need to get a matching pair of socks in the smallest number of picks and one matching pair of each color of socks in the smallest number of picking

b) The insight I can give is how many socks are there in each color

c) Overall goal is to get the matching pair in lowest number of selections and one pair of each color in the lowest selection

2. The solution for the sub did meet the goal

a) The constraints are that it is dark you cant see the color of socks

b) The sub goals are to break down the number of the socks by color

There are 10 black socks, 6 brown socks and 4 white socks.

3.

a) For the sub problem you need to multiply the number of that color sock by two. This gives you the number of sock in each color.

4.

a) The solution for he sub did meet the goal to find the quantity of each color of socks

b) His solution to find the number in each sock will work for all cases and all colors.

5.

1. You would pick five times to get the first matching pair of socks witch is half the number of the color of socks with the most individual socks. You would have to pick ten times to get a total of each matching color witch is half the number of sock within each color

**Predicting fingers**

1.

a) The problem is finding out what finger the count ends up on for 10, 100, and 1000

1. You have to get the number of count for all fingers counted
2. Over all goal is to find a problem sentence to find the finger where all counts asked land on

2.

a) The constraints are you loose a finger on a total count because u start on one opposite finger from both ways when counting

b) The sub goals are to find at what count do you count all fingers at least one time

3.

a) The solution to the sub problem is to count from one form the first finger till you count all your fingers once landing on the middle finger

4.

a) Each solution meets the sub goal to find what finger all counts will land on

b) Each solution for the 10, 100, and 100 count will work by dividing that number by the corresponding single number count

5. I counted to 9 from the thumb to the thumb again giving me the number 9. I then divided the highest count of 1000 by 9 and the quotient was the finger 11, which is where the 1000 count finger will land on.