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Class: WPF

Assignment: Problem Solving Activity

Problem #1

1. Define the problem: The man must transport one item at a time without having them “destroying each other”. The overall goal is to get them all over on the other side with the man.
2. Constraints are the man must only take one with out loosing another while making sure they all make it safe on the other side of the riverbank.
3. Potential Solutions:

1st solution will be to take the seeds first and have the bird fly instead of ride, ride back with the seeds, leave the seeds get the cat bring him over to the other side get the bird in the boat and ride to the other side where the seeds are. Take the seeds and have the bird fly back while you ride over to the cat.

2nd I think If I take the bird over on the boat, then make my way back alone, I can take the cat on the side where the bird is and drop the cat off to then pick up the bird again and ride to the seeds, leave the bird on that side and bring over the seeds to where the cat is then go back and finally get the bird and bring him over to the seeds and cat.

1. They both meet the goal but I’m not sure if the bird could fly or not but I would Imagine its one of the two. I think the 2nd solution would work in all cases where as the first if one of the items cant fly that option wouldn’t work.
2. The solution for this is in full and written in the potential solutions. As certain ones isn’t together on the first trip they all will be alone moving forward until the last trip. {2nd I think If I take the bird over on the boat, then make my way back alone, I can take the cat on the side where the bird is and drop the cat off to then pick up the bird again and ride to the seeds, leave the bird on that side and bring over the seeds to where the cat is then go back and finally get the bird and bring him over to the seeds and cat.}

Problem #2

1. The problem here seems like a probability question. You have to find the smallest number of socks you need to pick to get at least one matching pair and one of color pair.
2. You have 5 pairs of black socks (10 socks), 3 pairs of brown (6 socks) and 2 pairs of white (4 socks). The black pair is half the total amount of socks and the brown and white makes up the other have. I’m not sure of any constraints, maybe selecting them in the dark.
3. …
4. …
5. …

Problem #3

1. The problem isn’t all that clear, its just a girl counting on her fingers and we are being ask which finger she lands on with her pattern of counting on her fingers. Our overall goal her is to figure out what finger she lands on for 10, 100 and 1000.
2. Constrains maybe that she does use her little finger when she is going from right to left and she skip over to the ring finger. I’m not sure if that is a real constrain or not. A sub goal would be to find a patter with in the first few.
3. I would say finding the pattern by counting manually up to 50. Or looking at how many chance does she land on her index and ring finger since those are the only two she lands on that are 10 (Index),20 (ring),30 (ring),40(index),50(index) so on and so on.
4. If you just count you will get the answer, It might take a bit of time to figure out the pattern but once you get the pattern down you will know the answer. For example it goes Index, Ring, Ring, Index, Index, Ring, Ring etc. Then figure out the pattern to every hundred for example 100(Ring) 200 (Index) 300 (Index) 400 (Ring) 500 (Index)
5. Since 10 is on my index finger, If I continue to stay in that pattern by 100 will be on my ring finger and 1000 will be on my index finger.