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WPF WDD144

Problem Solving

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

1. Define the problem – The problem is that the man needs to transport the cat, parrot and bag of seed but he can only fit himself and one other item in his boat. He needs to choose which one he should take.
2. Break the problem apart – There is not enough room in the boat for all of them. The ideal goal would be to get all of the items in the boat with the man. He can’t leave the cat and the parrot alone; the cat might eat the parrot.
3. Identify Solutions – It might be possible for the man to put the parrot on his shoulder so that it doesn’t take up space. He could also leave the parrot and the seed but take the cat and come back for the parrot.
4. Evaluate each potential solution – The solutions meet the goals however returning to get any item left behind might not be an option.
5. Choose a solution and develop a plan to implement it – My solution would be to take the cat first to the other side of the river. Then the man could come back and get the seed. He couldn’t take the parrot next because he would end up leaving the cat and the parrot together. If he got the seed next and the parrot last then the cat and parrot wouldn’t be together.

**Problem:** Socks in the Dark:

1. Define the problem—The problem is to find a matching pair of socks in the dark.
2. Break the problem apart – There are more black socks than any other color so the odds of getting black socks are greater. In the dark, you should be able to see the different between white and black/brown socks.
3. Identify Solutions – A solution could be to turn on the light. Another solution would be to hold the socks up next to each other and see if they look similar.
4. Evaluate each potential solution – Holding up socks together to see if they match would be the best solution in the dark. The smallest amount of socks that could be picked to solve the problems would be four. The chances of that might be pretty small.
5. Choose a solution and develop a plan to implement it – My solution would be to hold the socks up next to each other and see if they match. This might take some time and the chances of matching a black sock with a brown sock would be great. The ideal solution would be to turn the light on and see what you are looking at.

**Problem:** Predicting Finger:

1. Define the problem – The problem is determining what finger the girl will stop on when she counts to 10, 100, and 1000.
2. Break the problem apart – The challenge with the problem is that the girl does not count her fingers in an obvious way so determining what finger she stops on might not be easy to figure out.
3. Identify Solutions – One solution would be to count each finger out as the girl would to come up with the answer. Another solution would be to come up with a mathematical solution to find the answer.
4. Evaluate each potential solution – Counting out each finger would be the less complex way but could take a while to figure out especially when counting to 1000 and if you make a mistake or forget which finger you are on then you’d have to start all over again. Coming up with a mathematical equation seems like the better way to go but you have to know what you are talking about in order to find an answer.
5. Choose a solution and develop a plan to implement it – My solution would be to test out the first challenge, counting to 10. After seeing what numbers land with which fingers I might be able to determine how the rest of them would fall.