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Web Programming Fundamentals – Online

Section 1

Problem Solving

* Define
  1. Trying to get everything across the river with zero loss
* Break the problem apart
  1. The Cat
  2. The Bird
  3. The Seed
* ID potential solutions
  1. Move the cat first
  2. Move the seed first
  3. Move the bird first
* Evaluate each potential solution
  1. The bird will eat the seeds
  2. The cat will eat the bird
  3. The cat and the bird seed will be waiting
* Choose a solution and develop a plan to implement it
  1. You move the cat first
     1. You then go back
  2. You move the bird second
     1. You come back with the cat
  3. You move then move the bird seed
     1. You come back with the bird
  4. You then move the cat
     1. You come back alone
  5. You then go back across for the last time with the bird
     1. Mission accomplished
* Define
  1. How to best match the socks together
* Break the problem apart
  1. How many do you need for 1 matching pair
  2. How many do you need for 3 different matching pair?
* ID potential solutions
  1. For one matching pair
     1. Take all the socks out
     2. Take only 2 socks out
     3. Take only 3 socks out
     4. Take only 4 socks out
  2. For 3 different matching pair.
     1. Take all the socks out
     2. Take out at least 6 socks
     3. Take out at least 8 socks
     4. Take out at least 10 socks
* Evaluate each potential solution
  1. For one Pair
     1. If you take out all the socks you will have one pair
     2. If you take out at least two socks you might have a pair of matching socks
     3. If you take out at least 3 socks out you might have a pair of matching socks
     4. If you take out at least 4 socks you might have a pair of matching sock
  2. For 3 different matching pair
     1. If you take out all the socks you will have one matching pair
     2. If you take out at least 6 socks you might have 3 matching pair
     3. If you take out at least 8 socks you might have 3 matching pair
     4. If you take out at least 10 socks you might have 3 matching pair
* Choose a solution and develop a plan to implement it
  1. For 3 socks
     1. If you had the best luck in the world, you would only need to grab two socks because they would come up a pair
  2. For 3 different socks
     1. If you still had your luck streak going, you could grab 3 pairs of socks and have 3 different colors on the first time at your luckiest day.
* Define
  1. Best way to figure out how to count to a number
* Break the problem apart
  1. What finger will the girl stop on for the number 10
  2. What finger will the girl stop on for the number 100
  3. What finger will the girl stop on for the number 1000
* ID potential solutions
  1. You can just count along and figure it out
  2. You can create an algorithm to figure it out
  3. You can peruse Google and see about getting help
  4. You can use math to just count it out.
* Evaluate each potential solution
  1. This will be the best answer but it will take you a long time to figure it out
  2. This would be the best answer as long as you are very good at making algorithms
  3. You can in fact use Google, but you still don’t know for sure if this is correct.
  4. This would be a great answer as long as you’re solid in math.
* Choose a solution and develop a plan to implement it
  1. I chose a combination of the two.
     1. For the first answer I counted. It is your pointer finger
     2. For the second answer I just figured out what finger was which by using a bit of math from my counting
        1. Thumb 1 and 9
        2. First finger 2, 8, 10
        3. Second finger 3,7,11
        4. Third finger 4,6,12
        5. Fourth finger 5,113
        6. 100 lands you on ring finger
     3. I figured counting to 1000 is a bit mundane so I am guessing that If I counted to 1000 the same way I counted to 100 the finger should be the ring finger again.