Lab Report 1 Algorithms

Introduction to Computer Science I

# Student Name(s)

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# Activity

1. [Algorithm of a daily activity]

Take the dog for a walk.

1. Locate leash.
2. Grab leash.
3. Locate plastic garbage bag
4. Place garbage bag in pocket.
5. Ensure dog has a collar.
   1. If dog has no collar.
   2. Yell at dog.
   3. Find collar.
   4. Put collar on dog.
6. Attach leash to collar.
7. Grab leash by handle.
8. Exit house with dog.
9. Walk with dog around the block.
   1. If dog poops
      1. Wait for dog to finish
      2. Pick poop up with plastic bag.
   2. If dog sniffs
      1. Let dog sniff for a maximum 30 seconds.
      2. Yell at dog.
   3. If arrived back home.
      1. Go back inside your dwelling with dog.
10. Remove leash for dog collar.
11. Tell dog “Good Boy”
12. [Fox, chicken, corn]
13. Take Chicken with you across the river.
14. Leave chicken on other side.
15. Row back without chicken.
16. Take Corn across.
17. Leave Corn on other side, come back with chicken.
18. Leave chicken on original side, row back with fox.
19. Leave fox on other side.
20. Row back without anything.0
21. Row back to other side with chicken
22. [Tower of Hanoi]

Parts are: Ring 1, Ring 2, Ring 3, and Ring 4. Ring 1 is smallest, ring 4 is largest (r1, r2, r3, r4)

Towers are from left to right, tower 1, tower 2, tower 3 (t1, t2, t3)

1. r1 to t 2
2. r2 to t 3
3. r1 from t2 to t3
4. r3 from t1 to t2
5. r1 from t3 to t1
6. r2 from t3 to t2
7. r1 from t1 to t2
8. r4 from t1 to t3
9. r1 from t2 to t3
10. r2 from t2 to t1
11. r1 from t3 to t1
12. r2 from t2 to t3
13. r1 from t1 to t2
14. r2 from t1 to t3
15. r1 from t2 to t3

# Reflection

On the back of this sheet, reflect on what you have learned in this lab in at least three complete sentences.

I’ve never really understood the concept of how items are swapped in arrays. The tower of Hanoi example illustrated it. I’ll be honest, I’m not sure how to do this programmatically but I get the concept.  
The concept of psedo-code I’ve known about but I didn’t actually know its value. I can see it being a big deal to get my thoughts in order and have a clear plan of attack when developing a solution.