



Towers of Hanoi – October 13th, 2014

Choose your category to complete the Challenge. For more information and to help you determine your category, please go to the “What is a Looney Challenge” found on the Looney Challenge main page, www.cs.montana.edu/looney-challenge.

TOWER OF HANOI – 5 Points

What is the *Towers of Hanoi*?

The Tower of Hanoi is a math game/puzzle that was introduced by the French mathematician Edouard Lucas in 1883. The puzzle teaches an important mathematical concept, recursion, which is also very important to computer scientists. Students in computer science learn the concept to help them understand data structures and algorithms (reference: <http://mathworld.wolfram.com/TowerofHanoi.html>)

Challenge Directions:

1. Play the Towers of Hanoi game. The Challenge is worth **5 points**.
2. Go to the Dynamic Drive website, www.dynamicdrive.com/dynamicindex12/towerhanoi.htm.
3. How to play Towers of Hanoi: The object of the game is to move all the discs from Tower 1 to Tower 3. The discs must be in the same order with the largest disc on the bottom. You may use Tower 2. You can only move one disc at a time and you cannot put a larger disc on top of a smaller disc.
 - Select your category (beginners, intermediate, or experienced).
 - Beginners: To complete the Challenge you will need to move three discs from Tower 1 to Tower 3.
 - Intermediate: You will need to move five discs.
 - Experienced: You will need to move 8 discs.
4. To earn your Looney Challenge points, please **email your answer to looneychallenges@gmail.com**. Explain how you completed the puzzle and the number of moves it took you to complete the Challenge. You may also take a snapshot of your completed puzzle and send it as an email. **Please include in your email** your name, the name of your school, grade, and city you live in. **Also, Tell us if you saw Hunter Lloyd and Looney the Robot at your school!**

Deadline is June 30, 2015.

Interested in earning extra points?

For **2 extra points**: Send your answers to looneychallenges@gmail.com by **5:00 p.m., Friday, October 24th, 2014**.

For **1 extra point**: Tell us, if you could program Looney the Robot to sing a song, what song would you have him sing? **To receive the extra point, you must send your answer by October 24th, 2014.**