Harrisburg University of Science & Technology

CISC 610 Data Structures & Algorithms

Assignment 7

This is a non-programming assignment. For this assignment you will be answering the following theory questions:

1. A hash table that hashes all values to the same slot is essentially equivalent to what other data structure?
2. Analyze the hashing functions that were discussed in the lecture slides. Elaborate on the benefits and drawbacks of each function. (At least 3 of each)
3. Analyze the two methods for resolving collisions in hash tables that were discussed in the lecture slides. Elaborate on the benefits and drawbacks of each method. (At least 3 of each)
4. What strategies and issues should you consider when you are resizing a hash table? What are the likely complications? How would you address them?

Your submission should be accompanied by a 8 minute walk-through of your code. This analysis should include your decision making process, the logic behind you code, an your original thoughts that went into the decision making on why your code is written and performs in the manner in which you have written it. If you can not adequately explain how your code functions, it is difficult to believe that you created it yourself as it is inherently difficult to make that which you don't understand.
All video submissions must:

- Be narrated by your own voice - Silent submissions will not be considered
    - If you need accommodations regarding your voice recording, reach out to me **BEFORE** the due date of the assignment
- Capture your screen to include the source code and other assets required by the assignment if necessary for the comprehension of your explanation.

Your submission should include:

- A link to your YouTube/Loom Video upload submitted as a `.txt` file or as a submission comment **OR** a video file (`.mp4` preferred).
  AND
- Your code project (source code, resource files, etc.) unzipped.
- If necessary, provide a README file if an explanation is required to execute your code.