CSC505 Jennings

Homework 5, Spring 2020

Please implement the programs and answer the 9 questions.

1. Questions:
   * + 1. Names of the people in the team:

Bhoomi Shah (bshah2)

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* + - 1. NCSU GitHub URL:

<https://github.ncsu.edu/rspillai/CSC505-HW5>

* + - 1. Citations for code:
      2. What is the output of your diff program on files ex41.txt, ex42.txt?
      3. What is the output of your diff program on files ex42.txt, ex41.txt?
      4. If you implemented diffprint, give the output here.
  1. For files ex61.txt, ex62.txt
  2. For files ex62.txt, ex61.txt
  3. For files ex66a.txt, ex66b.txt
     + 1. Your implementation of LCS requires how much space? Your answer should use big-Theta, because your algorithm cannot use less and will never need more.
       2. How do you know that the 10-bit hash code required by this assignment is sufficient to allow your diff program to work correctly? (How would you know if it was not sufficient?)
       3. Suppose you were tasked with writing a diff program that would work reliably on input files that were long (up to, e.g. 10,000 lines) and could have long lines (up to, e.g. 5,000 bytes).
          1. What are the implications for the choice of hash function? (Describe what properties you would want in a hash function.)
          2. What are the implications for actual memory usage? I.e. calculate a reasonable approximation of how much memory your program might need in the worst case.