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## HW<sub>7</sub>

- 0) I collaborated with Carlo Bilbao on this assignment. We discussed question 2 regarding how to find the computation history, and talked about the reading for question 3.
- 1) For Unit 2, I definitely did a lot more studying before the exam, and spread it more evenly throughout the week before it. Because I didn't cram as much studying for the test the night before, I believe I was better rested and as a result, I had more energy and focus for the duration of the exam. Additionally, with I thought about the concepts a bit differently and went back to thoroughly review the notes and videos, which definitely helped.
- 2)  $C_9 = xxq_3#x1$   $C_{10} = xx#q_5x1$   $C_{11} = xx#xq_51$   $C_{12} = xx#q_6xx$   $C_{13} = xxq_6#xx$   $C_{14} = xq_7x#xx$  $C_{15} = xxq_1#xx$
- 3) a) True (Can stay put)
  - b) False (Theorem 3.16)
  - c) True (Theorem 3.21)
  - d) True (Proof of 3.21)
  - e) True (Church-Turing Thesis)
  - f) True (not sure about this question, if all algorithms in C++ can be simulated on a Turing machine, does that mean every program can as well? I assumed yes)
  - g) False (Terminology for describing turing machines)