1. Problems that a turing machine cannot solve:
   * 1. Halting problem
     2. Empty tape acceptance problem
     3. Empty set acceptance problem
     4. Regular machine recognition problem
2. Name four NP-Complete and four NP-Hard problems:
   1. NP-Complete:
      1. Knapsack Problem
      2. Traveling Salesman problem
      3. Vertex cover problem
      4. Hamiltonian Path problem

Disclaimer: the problem stated to NAME the problems, not describe them

* 1. NP-Hard:
     1. Flow shop scheduling
     2. K-minimum spanning tree
     3. Nurse scheduling problem
     4. Quadratic assignment problem

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1. Maxam-Gilbert vs Sanger DNA sequencing methods
   1. Maxam-Gilbert

The DNA strands are subject to a chemical treatment that fractures it in 4 points where different reactions occur (G, A+G, C, C+T). They are then placed in a sequencing gel where each segment can be visible and the sequence can be inferred.

* 1. Sanger

This method copies the DNA strand to be sequenced using four chemically altered bases. Each of the bases stops when it encounters a specific letter associated with the DNA proteins. After all of the copying is done there will be four strands each with one DNA letter on them. They are then put backed together like a puzzle to give the sequence of the original strand of DNA

* 1. Contrast

While the Maxam-Gilbert method was used for a long time, it is very time consuming and prone to human error when examining the sequence gel. The Sanger method is much more refined and can produce a more accurate result because of the way it is structured.