CSC104H1 Assignment # 3

Q1. In this question you are asked to demonstrate using the problem solving process developed by George Polya and apply it to a problem you design. The problem you design should require a revisiting of step 2, in the manner covered in both the first sample problem in the slides, and the first problem from tutorial.

      10 marks – Design of the Problem.
      10 marks – Problem is designed to require revisiting of step 2.
      5 marks – Work of Step 1.
      5 marks – Work of Step 2.
      5 marks -- Work of Step 3.
      5 marks -- Work of Step 4.
      10 marks – Work pertaining to revisiting step 2.

Note, in order to get full marks later in the document your problem should be good enough that you can adequately apply the method. If you aren't able to design a significant revisiting of step 2 that comes from not understanding the problem until you have some further information about the nature of the answer then you will be unlikely to get any of the 20 marks pertaining to revisiting step 2.

Q2. Another topic we covered was user interfaces:

      2a. What are two main benefits of text-based user interfaces? (10 marks)
      2b. What are two main benefits of GUI's? (10 marks)
      2c. Which user interface is more popular today? (5 marks)

Q3. The Fibonacci numbers are a famous sequence of numbers defined as follows:
1. The first Fibonacci number is 0
2. The second Fibonacci number is 1
3. The nth Fibonacci number is the sum of the two previous Fibonacci numbers (Whenever n is 2 or larger)

      3a. What are the first 5 Fibonacci numbers? (5 marks)
      3b. What are the 6th to 10th Fibonacci numbers? (5 marks)
      3c. Consider the task of writing a program to compute the first n Fibonacci numbers. Is this something that could be done by a proficient programmer or is this a task that cannot be done by computer? (5 marks) **Justify your answer.**(10 marks)

Submitting your assignment: Use plain text files
q1answers.txt, q2answers.txt, q3answers.txt
(on CDF you can add these extensions easily, on other OS's it is hard to take them away)