INSTRUCTIONS

- You have 5 minutes to complete this quiz.
- The exam is closed book, closed notes, closed computer, closed calculator.
- Mark your answers on the exam itself. We will not grade answers written on scratch paper.
- For multiple choice questions, fill in each option or choice completely.
  - □ means mark all options that apply
  - ○ means mark a single choice

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<td>First name</td>
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All the work on this exam is my own. (please sign)

0. Your thoughts? What was your favorite topic from CS 61A this semester?
1. **Anagrams**

   Create a table `anagrams` that contains all the anagrams of a word like `cats`. An **anagram** is a rearrangement of the letters in a word. For example, `tacs` and `sact` are anagrams of `cats`.

   *Hint:* Each letter must be used exactly once, so the sum of the positions should equal 1111.

   ```sql
   CREATE TABLE anagrams as
   WITH word(letter, position) AS (
      SELECT 'c', 1 UNION
      SELECT 'a', 10 UNION
      SELECT 't', 100 UNION
      SELECT 's', 1000
   )
   SELECT * FROM word
   WHERE letter in ('tacs', 'sact');
   ```

2. **Squares**

   Using recursive SQL, create a table `squares` containing all the perfect squares between 156 and 1145.

   ```sql
   CREATE TABLE squares AS
   WITH naturals(n) AS (
      SELECT 1 UNION
      SELECT n + 1 FROM naturals
   )
   SELECT * FROM naturals
   WHERE n * n BETWEEN 156 AND 1145;
   ```