1. List the members of your group below. Underline your name.

2. Prove or disprove the following from first principles.
   (a) $\log n = O(n)$

   (b) $n^3 = o(2^n)$

3. Define maximum contiguous subsequence (MCS).

4. Prove or disprove: Every sequence has a unique MCS.
5. Trace the MCS computation for the sequence \((2, -3, 4, 2, -1, 3)\) using the \(O(n^2)\) algorithm from the textbook. Prove the \(O(n^2)\) claim. Is the algorithm \(\Theta(n^2)\)? Explain.

6. Repeat Question 5 for the \(O(n)\) algorithm from the textbook.