1. (4 points) Please answer the following questions about Big-O notation with a fully spelled word e.g. Yes/No or True/False. No proofs are required.
   (a) Is $\sqrt{n} = O(n)$?

   (b) Is $n^{1.01} = O(n \log n)$?

   (c) Is $\frac{n^2}{100} = O(n)$?

   (d) Is $n^2 = O(2^n)$?

2. (4 points) How many inversions are in the following list?
   3, 1, 4, 5, 9, 2, 6, 8