

Quiz 14, Attempt 2

Suppose you observe IQs of 77, 88, 90, and 95 from a group of four subjects. Then, after taking NZT, the same three subjects get scores of 76, 90, 99, and 100, respectively. We want to test if NZT improves IQ by more than 1.5 points. Use the test statistic $\sum 1\{(D_i - 1.5) > 0\} (D_i - 1.5)$ to test the null hypothesis that the distribution of differences is symmetric about 1.5. Give the p-value based on a one-sided alternative (NZT does not improve IQ by a margin).

This is the same as attempt 1 except that we want the other one-sided alternative.

$$p\text{-value} = \frac{14}{16} = \frac{7}{8}.$$