

STAT 445 Lab 9
ASSIGNMENT # 9
Due: Lab 10 (at the end)

Question 1 (Permutation test)

The National Endowment for the Humanities sponsors summer institutes to improve the skills of high school teachers of foreign languages. A study was carried out to examine if attending the institute improves listening skills; $n = 20$ Spanish teachers were selected for this study. At the beginning of the course, the teachers were given the Modern Language Association's listening test of understanding of spoken Spanish. After 4 weeks of immersion in Spanish, the listening test was given again. This dataset is available on the web ('assign9.dat').

- (a) Carry out an analysis addressing the researcher's question using a permutation test.
- (b) Carry out another analysis addressing the researcher's question using a different but appropriate technique.
- (c) Compare and discuss the results you obtained in (a) and (b).