

0. Read Chapter 3 in NSI book by yourself.

1. (Exercise 3.13 on page 97 of NSI book)

A certain broker noted the following number of bonds sold each month for a 12 month period:

Jan. 19	July 22
Feb. 23	Aug. 24
Mar. 20	Sept. 25
Apr. 17	Oct. 28
May 18	Nov. 30
June 20	Dec. 21

- Use the runs up and down test to see if these data show a directional trend and make an appropriate conclusion at the 0.05 level.
- Use the runs above and below the sample median test (that is, denote “+” if the number goes beyond the sample median and “-” if the number goes below the sample median) to see if these data show a trend and make an appropriate conclusion at the 0.05 level.
- Use the RVN test to see if these data show a positive trend.
- Compare the conclusions reached in (a),(b),(c).

2. (Exercise 3.14 on page 98 of NSI book)

The following are 30 time lapses in minutes between eruptions of Old Faithful geyser in Yellowstone National Park, recorded between the hours of 8 a.m. and 10 p.m. on a certain day, and measured from the beginning of one eruption to the beginning of the next:

68, 63, 66, 63, 61, 44, 60, 62, 71, 62, 62, 55, 62, 67, 73,
72, 55, 67, 68, 65, 60, 61, 71, 60, 68, 67, 72, 69, 65, 66

A researcher wants to use these data for inference purposes, but is concerned about whether it is reasonable to treat such data as a random sample. What do you think? Justify your answer.