Finger Exercises — Due Thursday, April 21, 1998

Please prepare answers for these exercises, to be turned in. Your grade will be based on how many questions you made a reasonably strong effort to answer, **not** *how many questions you get right or partially right. There is no partial credit, but the grader may give you additional written feedback on each question you attempt.*

Feel free to discuss these exercises with each other and with me. You will get the most benefit from the grader's remarks, however, if the work you turn in is your own.

This hw, like most material for this course, is posted on the World Wide Web at URL `http://www.stat.cmu.edu/~brian/402/`; you can cut and paste data directly out of the TEX file if you wish. Look for something under week13.

Guess the model. All but one of the time series below was simulated from a fairly simple ARIMA(p, d, q) model; the one that was not simulated from an ARIMA model was simulated as a sinusoid plus white noise. Use methods (graphical, exploratory or modeling fitting) from class to determine, for each data set

- whether it was generated from the sinusoidal model
- if it is not what kind of ARIMA model was it generated from: pure AR, pure MA, ARMA, or ARIMA.

and finally use appropriate model-fitting methods to estimate the ARIMA parameters of the three ARIMA models and the appropriate parameters of the one sinusoidal model.

1. `ts1.s`
2. `ts2.s`
3. `ts3.s`
4. `ts4.s`

Note: If you say

```
402 > source("ts1.s")
```

this will create an `rts` object named `ts1` that contains the observations in `ts1.s`. Similarly for the other three files.