

STAT 673  
Homework 6  
due Wed. Oct. 28

Show all work.  
Please work in Groups of 2! There are 2 problems.

1. p. 86, Problem 4.1

2. Data: Monthly AA Railroad Bond Yields ( $\% \times 100$ ), January 1968 through June 1976,  $n=102$ .

The data are in a file and you can read the data into R and make the data a time series object by:

```
> byields <- scan("http://www-rohan.sdsu.edu/~babailey/stat673/bondyields.dat")  
  
> byields <- ts(byields, start=1968)
```

- (a) What are AA Bond Yields?
- (b) Plot the series. Is the series stationary? Explain.
- (c) Plot the difference series. Is the differenced series stationary? Explain.
- (d) From the sample ACF and PACF of the series and differenced series, what is an appropriate model?
- (e) Fit **three** possible models to the data. Use the R function `arima`.
- (f) Looking at the diagnostic plots, how well do the 3 models fit the data? Please include the diagnostic plots from the R function `tsdiag`.
- (g) Which of the models that you fit is the “best”? Explain.