

Stat 565

Homework 5

Due in class Feb 18

Required reading 5.4 & 5.5 in Chatfield

1

Fit a seasonal ARIMA model to the Johnson and Johnson quarterly returns data in the package `astsa` and forecast the next 12 quarters (including prediction intervals).

```
# install.packages("astsa")
library(astsa)
data(jj)
```

2 The Holt Winters Method

1. Read 5.2.3. in Chatfield
2. What decisions need to be made to use a Holt Winters forecasting approach? What starting values do you need to specify? What parameters need estimating?
3. Investigate the R function `HoltWinters`. How do you specify the decisions from above? How does the function choose starting values and estimate parameters?
4. Use the function to produce forecasts (along with prediction intervals) for Johnson and Johnson returns in question 1.