Course Outline

Fundamentals of Bayesian Inference

1. Probability and Inference

   (1) General notation for statistical inference (1.1–1.2)

   (2) Bayesian inference (1.3-1.4)

   (3) Probability as a measure of uncertainty (1.5–1.7)

   (4) Some useful results from probability theory (1.8)

   (5) Computation and software (1.9)

Introduction to R

Slides: Rintro.pdf

References: http://cran.wustl.edu/doc/manuals/R-intro.pdf

Homework:

1. Sec 1.12 Exercise: 1, 3, 5. (10 points each)

2. Programming (20 points):

Movie DVDs owned by students

The variable Dvds in the student dataset contains the number of movie DVDs owned by students in the class.

a) Construct a histogram of this variable by use of the `hist` command.

b) Summarize this variable by the `summary` command.

c) Use the `table` command to construct a frequency table of the individual values of Dvds that were observed. If one constructs a barplot of these tabled values by use of the command

```
barplot(table(Dvds))
```

one will see that particular response values are very popular. Is there any explanation for these popular values for number of DVDs owned?

3. Reading Assignment: Chapter 1 of textbook, An Introduction to R.