Professor Notes About the "Bivariate EDA - Cat" Homework

- You must provide labeled tables and figures to support your results and refer to these tables in your sentences.
- Sentences cannot begin with a number (e.g., you cannot say "22.2% of ...."). You must reorganize the sentence so that it does not begin with a number.
- Percentages are typically rounded to one decimal place.

Fire Blight Disease

1. The frequency table is in Table 1.

   Table 1. Frequency table for the fire-blight data. Note that A=no action (control), B=removal of the affected branches, C=spraying of foliage with an antibiotic and the removal of affected branches, 1=the tree died in the same year that the disease was noticed, 2=the tree died after 2-4 years, 3=the tree died after 4 years.

   ```
        out
   treat 1 2 3
       A 5 2 0
       B 3 3 2
       C 2 4 3
   ```

2. The row percentage table is shown in Table 2.

   Table 2. Row percentages table for the fire-blight data. Abbreviations are given in Table 1.

   ```
        out
   treat     1     2     3   Sum
       A  71.4  28.6   0.0 100.0
       B  37.5  37.5  25.0 100.0
       C  22.2  44.4  33.3  99.9
   ```

3. The column percentage table is shown in Table 3.

   Table 3. Column percentages table for the fire-blight data. Abbreviations are given in Table 1.

   ```
        out
   treat     1     2     3
     A    50.0  22.2   0.0
     B    30.0  33.3  40.0
     C    20.0  44.4  60.0
     Sum 100.0  99.9 100.0
   ```

4. The table percentage table is shown in Table 4.

   Table 4. Table percentages table for the fire-blight data. Abbreviations are given in Table 1.

   ```
        out
   treat    1    2    3  Sum
     A   20.8  8.3  0.0 29.1
     B   12.5 12.5  8.3 33.3
     C    8.3 16.7 12.5 37.5
     Sum 41.6 37.5 20.8 99.9
   ```

5. The percentage of all trees in Treatment A that were dead within the first year (i.e., outcome=1) is 71.4% (Table 2).
6. The percentage of ALL trees that were in Treatment A AND were dead within the first year (i.e., outcome=1) is 20.8% (Table 4).
7. The percentage of the trees in the control treatment (treatment A) that died after four years (i.e., outcome=3) is 0.0% (Table 2).
8. The percentage of the trees that died after 2-4 years (outcome 2) that were in the control treatment (treatment A) is 22.2% (Table 3).
9. The percentage of all trees that were dead within the first year is 41.6% (Table 4).

R Appendix

```
library(NCStats)
setwd('C:/aaaWork/Books/IntroStats/HW/')
d <- read.csv("FireBlight.csv")
( tbl <- xtabs(~treat+out,data=d) )
( row.tbl <- percTable(tbl,margin=1) )
( col.tbl <- percTable(tbl,margin=2) )
( perc.tbl <- percTable(tbl) )
```