**Assigned: Monday January 25:** (2-7, 2-8, 2-10, p 26) (3-4,  p 35)

**Problem 2.7**

1. 16 variables
2. 336,776 cases
3. flights that departed NYC in 2013
4. Variable Types
    1. year: quantitative
    2. month: quantitative
    3. day: quantitative
    4. dep_time: quantitative
    5. dep_delay: quantitative
    6. arr_time: quantitative
    7. arr_delay: quantitative
    8. carrier: categorical
    9. tail_num: categorical
    10. flight: quantitative
    11. origin: categorical
    12. dest: categorical
    13. air_time: quantitative
    14. distance: quantitative
    15. hour: quantitative
    16. minute: quantitative
5. Variable Units
    1. air_time: minutes
    2. distance: miles

**Problem 2.8**

1. Improper syntax for function argument
2. No/Incorrect assignment operator
3. Invalid object name
4. Unmatched quotes in character string
5. No mistake

**Problem 2.10**

- 76 variables in CountryData
- tfat = mass of trunk fat
- 23018 cases in WorldCities
- 3rd variable in BabyNames = count
- Party Codes
    - DEM = Democratic

- LIB = Libertarian
- REP = Republican
- UNA = Unaffiliated

**Problem 3.4**

1. BabyNames: (b) data table name
2. filter: (a) function name
3. name: (c) variable name
4. ==: (a) function name
5. group_by: (a) function name
6. year: (c) variable name
7. sex: (c) variable name
8. summarise: (a) function name
9. yearlyTotal: (d) name of a named argument
10. sum: (a) function name
11. count: (c) variable name
12. ggplot: (a) function name
13. aes: (a) function name
14. x: (d) name of a named argument
15. y: (d) name of a named argument
16. geom_point: (a) function name
17. color: (d) name of a named argument
18. geom_vline: (a) function name
19. xintercept: (d) name of a named argument

**Assigned: Wednesday January 27:** (3-5, 3-6 p. 35) (4-1, 4-5 p. 45)

**Problem 3.5**

- brainwt: brain weight in kilograms
- 83 cases
- Mammals of certain weights
- vore levels:
  - carnivore, omnivore, or herbivore

**Problem 3.6**

- (c) does not belong because it assigns the average of all the count values to totalBirths instead of sum, like the others

**Problem 4.1**

- *one* : italicized

```
•  **two** : bolded
•  * three : bulleted
•  # Four : h1 header
•  'five' : code
•  ## six: h2 header
•  [seven](http://tiny.cc/dcf/index.html): link
```

```
Problem 4.5

---
title: "Birds of the World"
author: "JJ Audubon"
date: ""
output:
html_document:
fig_height: 3
fig_width: 5
---
<!-- Don't edit in between this line and the one below -->
```{r include=FALSE}
# Don't delete this chunk if you are using the DataComputing package
library(DataComputing)
```
*Source file*
```{r, results='asis', echo=FALSE}
includeSourceDocuments()
```
<!-- Don't edit the material above this line -->
There are many species of birds in the world. From my studio, I can see

* Blue Jays
* Cardinals
* Robins
* Crows
* Sparrows
```

# Small Project Books

Felix Su

29 Jan, 2016

*Source file* ⇒ small-project-books.Rmd

## Basics

```
load("Library-small.rda")  #file path for home directory is "~\Library-small.rda"
```

## Inv Data

**Properties:** 'data.frame': 2000 obs. of 18 variables
**Variables:** Shelving.Location, Item.Type, Call.Number, Author, Title.or.Description, Textual.Holdings, Material.Format, OCLC.Number, ISBN, Item.Barcode, Cost, Current.Status, Loan.Date.Due, Issued.Count, Issued.Count.YTD, Last.Issued.Date, Last.Inventoried.Date, Item.Deleted.Date **Description:** Shows data about each book's status in inventory. This is mostly used for logistical information regarding checkout, shelving, sorting, etc. A user would retrieve from this table if he/she wants information about the state of the library.

## Bks Data

**Properties:** 'data.frame': 3765 obs. of 15 variables
**Variables:** OCLC.Number, Format, Subject, Title, Author, Publication.Date, Edition, Publisher, ISBN, Language, Physical.Description, Genre, LC.Call.Number, Dewey.Call.Number, Local.Call.Number **Description:** Shows data representing each book. This is used to store the book's specific details such as author, title, Dewey decimal number, etc. A user would retrieve from this table if he/she wants information about the state of individual books.

### Inv Grouped by Status

```
Inv %>%
  group_by(Current.Status) %>%
  tally()
```

```
## Source: local data frame [4 x 2]
##
##   Current.Status     n
```

```
##            (chr) (int)
## 1      AVAILABLE  1866
## 2        MISSING     1
## 3        ON_LOAN    18
## 4      WITHDRAWN   115
```

### Inv Grouped by Issue Count

```
Inv %>%
  group_by(Issued.Count) %>%
  tally()
```

```
## Source: local data frame [46 x 2]
##
##    Issued.Count     n
##           (int) (int)
## 1             0   996
## 2             1   337
## 3             2   203
## 4             3   121
## 5             4    69
## 6             5    46
## 7             6    38
## 8             7    29
## 9             8    24
## 10            9    20
## ..          ...   ...
```

**Description:** The first data frame, grouped by `Current.Status`, shows the number of books currently at each status ('AVAILABLE', 'MISSING', 'ON_LOAN', 'WITHDRAWN') and the second data frame, grouped by `Issued.Count`, shows the number of times each book was checked out.

---

Downloaded data from library-small database

Stored File at `~/ucb_classes/Sp16/STAT133/projects/Library-small.rda`