Is it just me, or is it getting hotter in here?

Introduction

Global warming is a profoundly important issue for public policy. In this problem set, we begin to explore the *average global temperature in degrees celsius* over time. We are interested in whether there is a predictive relationship between the *year* an observation is collected, and the *temperature* we observe.

Data[1] Source: *Compiled by Worldwatch Institute from James Hansen and Reto Ruedy, Goddard Institute for Space Studies, 14 January 1997.*

Problems

1. (5 points) [*Loading the data*]
   Download the data from the above link, and save it as a .csv file. Load the data into R, and save it as an object called `dat`. Print the first five observations
   Hint: use '='

```
> dat = read.csv("globtemp.csv", header = TRUE)
> head(dat)

  Year  Temp
1 1866 14.46
2 1867 14.36
3 1868 14.50
4 1869 14.60
5 1870 14.52
6 1871 14.62
```

2. (5 points) [*Browsing the data*]
   How many observations are in the dataset?

```
> dim(dat)

[1] 131   2
```

[1] Note: this document links to a site maintained by the University of Queensland. Data are used for educational purposes.

3. (5 points) [*Summarizing the data*]
What is the smallest global average temperature? What is the largest? What is the mean?

```
> summary(dat$Temp)

   Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
  14.33   14.72   14.91   14.89   15.08   15.40
```

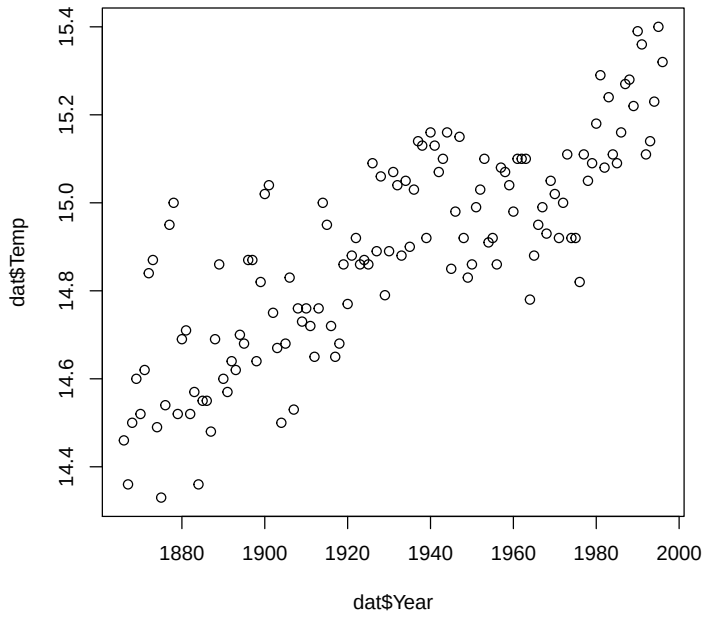
4. (5 points) [*Assessing relationships*]
Calculate a correlation in order to assess whether there is a linear predictive relationship between `Year` and `Temp`.

```
> cor(dat$Year, dat$Temp)

[1] 0.8114984
```

5. (5 points) [*Assessing relationships*]
Create a scatter plot of the data with `Year` on the x-axis, and `Temp` on the y-axis.

```
> plot(dat$Year, dat$Temp)
```



6. (5 points) [*Summarizing results*]
   In a sentence or two, use the analyses you've performed to comment on whether there is a predictive relationship between the *year* an observation is collected, and the *temperature* we observe.