Assignment instructions

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Assignment solutions need to be submitted using `R Markdown` from `RStudio` or `LaTeX` if you prefer. **R Markdown is strongly recommended.** This, for example is itself an `R Markdown` document.

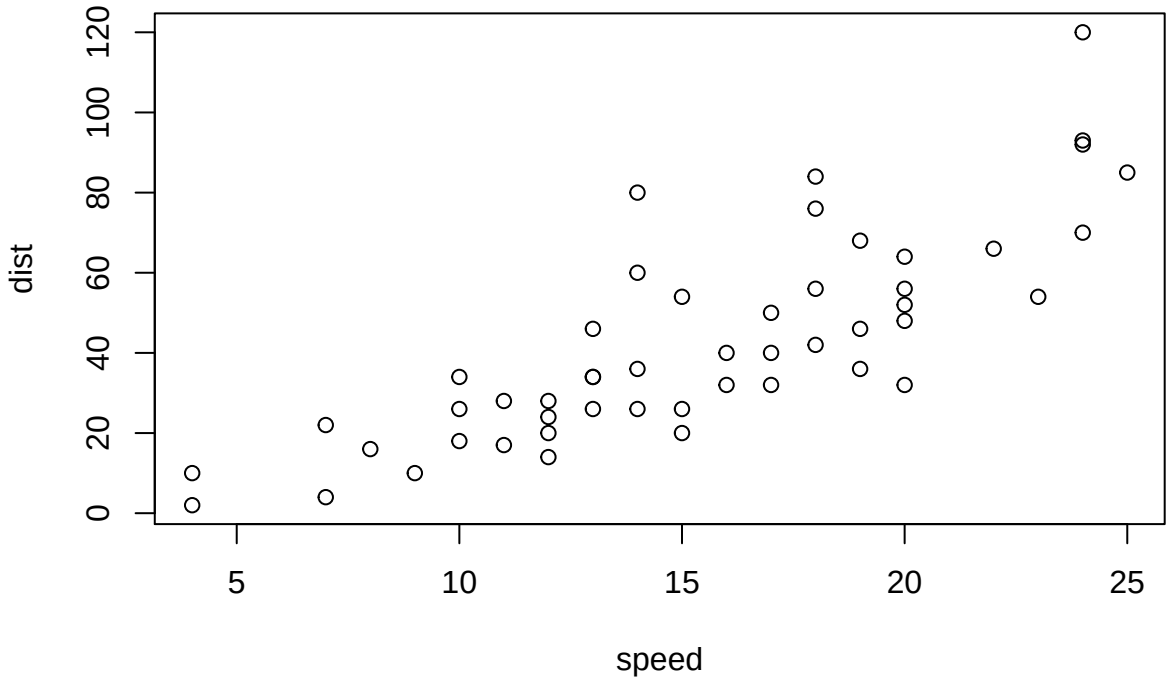
Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed           dist
##  Min.   : 4.0   Min.   :  2.00
##  1st Qu.:12.0   1st Qu.: 26.00
##  Median :15.0   Median : 36.00
##  Mean   :15.4   Mean   : 42.98
##  3rd Qu.:19.0   3rd Qu.: 56.00
##  Max.   :25.0   Max.   :120.00
```

You can also embed plots, for example:



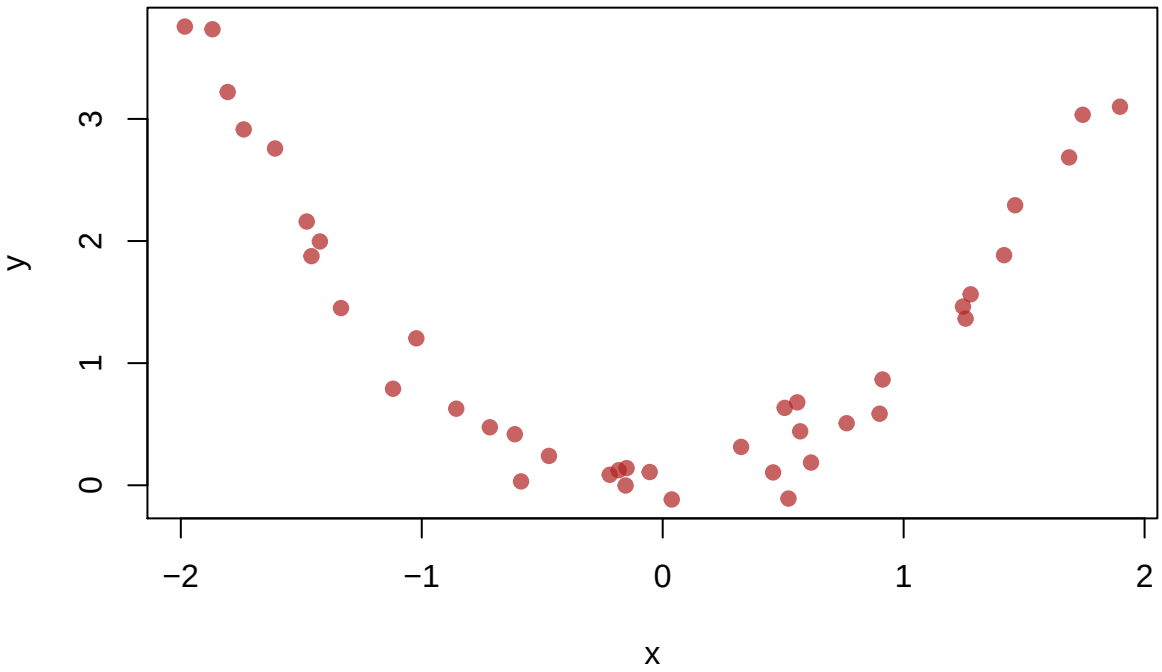
Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

In answering assignment questions, incorporate mathematics, `R code`, and plots as appropriate.

For example, using `RMarkdown` from `RStudio`, you might have something inline showing like this `qt(0.9, 64)` and evaluated like this 1.2949198.

You will also want to include whole chunks of code and output like this:

```r
n <- 40
x <- runif(n, min=-2, max=2)
y <- x^2 + rnorm(n, sd=0.2)
plot(x,y, pch=19, col= adjustcolor("firebrick", alpha.f=0.7))
```



And then have your discussion appear around it. It might, or might not, include some mathematics inline like this $\mu(\mathbf{x})$ or as a block like this

$$Y_{new} - \widetilde{\mu}(\mathbf{x}_{new}) \sim N\left(0\ ,\ \sigma^2\left(1 + \mathbf{x}_{new}^T\left(\mathbf{X}^T\mathbf{X}\right)^{-1}\mathbf{x}_{new}\right)\right).$$

or even a multi-equation block like: $\frac{1}{2}$

$$\begin{aligned}\alpha &= Pr\left(-a \le \frac{Y_{new} - \widetilde{\mu}(\mathbf{x}_{new})}{\widetilde{\sigma}\sqrt{1 + \mathbf{x}_{new}^T(\mathbf{X}^T\mathbf{X})^{-1}\mathbf{x}_{new}}} \le a\right) \\ &= Pr\left(\mathbf{I}_{new}(\mathbf{x}_{new}) \ni Y_{new}\right)\end{aligned}$$

Make your answers complete, as if they were a report on your findings.

To include images:

Figure 1: A million?

To include a link Click here for Chris Jordan: tuna

For miscellaneous other info, see RStudio's RMarkdown Basics or their cheatsheet.