A0 solution - Rmarkdown First Lab

Last name: put your last name here
First name: put your first name here
Student ID: ########
Course section: STA302H1F-L0101

Sept. 21th, 2016

(1) Editing the highlighted places
(2) split the PDF into 3 solutions,
- page 1 for Q1
- page 2-3 for Q2
- page 3 for Q3

(3) Submit your solution to each question one by one as instructed on Crowdmark.

Q1 - Editing and Hello world

1.1 Changing the author field and file name.

(a) Change the `author:` fields to your information on the Rmd document.

(b) Rename this file to "A0.Rmd", where your name and student iD are changed to your case.

1.2. Hello World!

Here's an R code chunk that prints the text 'Hello world!'.

```
print("Hello world!")
```

```
## [1] "Hello world!"
```

(a) Modify the code chunk below to print your name

```
print("Wei(Becky) Lin")
```

```
## [1] "Wei(Becky) Lin"
```

Q2 Creating Sequences

2.1. Creating sequences

We just learned about the `c()` operator, which forms a vector from its arguments. If we're trying to build a vector containing a sequence of numbers, there are several useful functions at our disposal. These are the colon operator `:` and the sequence function `seq()`.

`:` Colon operator:

```
1:10 # Numbers 1 to 10
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10
```

```
127:132 # Numbers 127 to 132
```

```
## [1] 127 128 129 130 131 132
```

`seq` function: `seq(from, to, by)`

```
seq(1,10,1) # Numbers 1 to 10
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10
```

```
seq(1,10,2) # Odd numbers from 1 to 10
```

```
## [1] 1 3 5 7 9
```

```
seq(2,10,2) # Even numbers from 2 to 10
```

```
## [1]  2  4  6  8 10
```

You don't need to edit anything in below.

> To learn more about a function, type '?functionname' into your console. E.g., '?seq' pulls up a Help file with the R documentation for the 'seq' function.

(a) Use `:` to output the sequence of numbers from 3 to 12

```
3:12
```

```
##  [1]  3  4  5  6  7  8  9 10 11 12
```

(b) Use `seq()` to output the sequence of numbers from 3 to 30 in increments of 3

```r
seq(3, 30, 3)
```

```
##  [1]  3  6  9 12 15 18 21 24 27 30
```

(c) Save the sequence from (a) as a variable `x`, and the sequence from (b) as a variable `y`. Output their product `x*y`

```r
x <- 3:12
y <- seq(3, 30, 3)
x * y
```

```
##  [1]   9  24  45  72 105 144 189 240 297 360
```

Q3 - Plot cars data

3.1. Cars data

We'll look at data frame and plotting in much more detail in later classes. For a previous of what's to come, here's a very basic example.

For this example we'll use a very simple dataset. The `cars` data comes with the default installation of R. To see the first few columns of the data, just type `head(cars)`.

```
head(cars)
```

```
##   speed dist
## 1     4    2
## 2     4   10
## 3     7    4
## 4     7   22
## 5     8   16
## 6     9   10
```

We'll do a bad thing here and use the `attach()` command, which will allow us to access the `speed` and `dist` columns of `cars` as though they were vectors in our workspace.

```
attach(cars) # Using this command is poor style.  We will avoid it in the future.
```

We can easily produce a histogram of stopping distance using the `hist` function.

```
hist(dist) # Histogram of stopping distance
```