MED 264: R Homework

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Homework Instructions:

1. Download the word version of this [document](homework-into-r.docx). You may also write a R script with the answers.
2. Add your answers to the document.
3. "Save as" your file as -med264-rhomework.docx.
4. Bring to class on Thursday.

## 1. Vector Types

Look at the help for the c function. What kind of vector do you expect you will create if you evaluate the following:

c(1, 2, 3)  
c('d', 'e', 'f')  
c(1, 2, 'f')

## 2. Making a vector

Start by making a vector with the numbers 1 through 26. Multiply the vector by 2, and give the resulting vector names A through Z (hint: there is a built in vector called LETTERS).

## 3. Addressing objects in a data.frame

There are several subtly different ways to call variables, observations and elements from data.frames:

* cats[1]
* cats[[1]]
* cats$coat
* cats["coat"]
* cats[1, 1]
* cats[, 1]
* cats[1, ]

Load the data into R:

cats <- read.csv('https://raw.githubusercontent.com/jt14den/med264/gh-pages/data/feline-data.csv')

Try out these examples and explain what is returned by each one.

*Hint:* Use the function typeof() to examine what is returned in each case.

## 4. Subsetting a vector

Given the following code:

x <- c(5.4, 6.2, 7.1, 4.8, 7.5)  
names(x) <- c('a', 'b', 'c', 'd', 'e')  
print(x)

## a b c d e   
## 5.4 6.2 7.1 4.8 7.5

1. Write a subsetting command to return the values in x that are greater than 4 and less than 7.

## 5. Write a function in R

Write a function called kelvin\_to\_celsius that takes a temperature in Kelvin and returns that temperature in Celsius

Hint: To convert from Kelvin to Celsius you subtract 273.15