Homework

Tim Dennis

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Instructions:

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