

## XP Booster

February 16

This week you will be working **SOLO**. You have 10 minutes.

1. Mr. Merrick Writes the following code below:

```
1 food <- c('ice cream', 'cake', 'ice cream', 'pie', 'pie')
2 sum(food=='cake')
```

What will be displayed in the console when the code runs?

**Solution:** 1

2. Consider the code below (note that 'food' contains an arbitrary number of strings):

```
1 food <- c('ice cream', 'cake', ..., 'ice cream', 'pie', 'pie')
```

Write a script that calculates the proportion of items in food that are 'cake'.

**Solution:**

```
1 sum(food == 'cake')/length(food)
```

3. The dataset 'birds.csv' is in the current working directory. Write the code that will load the dataset into R below.

**Solution:**

```
1 birds <- read.csv('birds.csv')
```

4. The birds dataset is tidy with 3 variables: Type, Weight, and Height, and 12 observations. Fill in what the dataset could look like below:

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## XP Booster

March 2

This week you will be working in **Teams of Two**. You have exactly 10 minutes to finish each of the following questions. For this challenge you will be using the Pokémon dataset.

1. Visualize the distribution for Pokémon attack scores using a histogram (draw it) below. Be sure to include labels.
2. Visualize the distribution for Pokémon attack scores using a boxplot (draw it) below. Be sure to include labels.
3. Determine what proportion of Pokémon in the dataset are 'fire' pokémon
4. Determine what proportion of pokémon in the dataset are fire pokemon with attacks of less than 50.
5. Using a pairwise boxplot visualize the distribution for Pokémon attacks across the variable 'is.legendary' (you just need to write the code that will create the plot, not draw). Can any conclusions be drawn from this plot?

### Solution:

```
1 ##### XP BOOST 2 #####
2 pok <- read.csv('pokemon.csv')
3
4 # Question One
5 hist(pok$attack, xlab="attacks")
6
7 # Question Two
8 boxplot(pok$attack)
9
10 # Question Three
11 length(pok$attack[pok$type1=='fire'])/length(pok$attack)
12 # 0.06491885
13
14 # Question Four
15 length(pok$attack[pok$attack<50 & pok$type1=='water'])/length(pok$attack)
16 # 0.02621723
17
18 # Question Five
19 boxplot(pok$attack~pok$type1, xlab='type', ylab='attack')
```