Lab 2B: Oh the Summaries ...

Directions: Record your responses to the lab questions in the spaces provided.

Just the beginning

Extreme values

- **Find the min value and max value for your predominant color.**

- **Apply the range function to your predominant color and describe the output.**

Quartiles (Q1 & Q3)

- **Use a similar line of code to calculate *Q3*, which is the value that's larger than 75% of our data.**

The Inter-Quartile-Range (IQR)

- **Write down the numbers that split the data up into these 4 pieces.**

- **How long is the interval of the middle two pieces?**

Calculating the IQR

- **Use the values of *Q1* and *Q3* you calculated previously and find the *IQR* by hand**.

    - **Then use the iqr() function to calculate it for you.**

- **Which personality color score has the widest spread according to the *IQR*? Which is narrowest?**

Boxplots

- **By showing someone a dotPlot, how would you teach them to make a *boxplot*? Write out your explanation in a series of steps for the person to use.**

    - **Use the steps you write to create a sketch of a *boxplot* for your predominant color's scores in your journal.**

    - **Then use the bwplot function to create a *boxplot* using R.**

Our favorite summaries

Calculating a range value

- **Use these two steps to calculate the *range* of your predominant color.**

Introducing custom functions

Example function

Using mm_diff()

- **Which of the four colors has the largest absolute difference between the mean and median values?**

    - **By examining a dotPlot for this personality color, make an argument why either the mean or median would be the better description of the *center* of the data.**

Our first function

- **Use the Range function to find the personality color with the largest difference between the max and min values.**

On your own

- **Create a function called myIQR that uses the quantile function to compute the middle 30% of the data.**