Markdown In-Class Exercise

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## Introduction

This exercise will use the **CO2** dataset, which is part of base R. The CO2 dataset is taken from an experiment on the cold tolerance of the grass species *Echinochloa crus-galli*.

The CO2 dataset has 84 rows and 5 variables, including:

1. Plant ID
2. Plant origin
3. Treatment group
4. Ambient carbon dioxide concentration (mL/L)
5. CO2 uptake rate ( *umol/m*^2 sec)

## Data Details

* There are 12 different plant IDs in this dataset
* There are 2 plant origins:
  + Quebec
  + Mississippi
* There are 2 treatment groups:
  + Chilled
  + Nonchilled

## Results

The overall mean ambient carbon dioxide concentration was 435mL/L and the overall mean CO2 uptake rate was 27.21 *umol/m*^2 sec. Means by treatment and origin can be found in Table 1.

Making a table with kable:

Table 1

|  |  |  |
| --- | --- | --- |
| Names | Mean | SD |
| Quebec | 33.54 | 9.67 |
| Mississippi | 20.88 | 7.82 |
| chilled | 23.78 | 10.88 |
| nonchilled | 30.64 | 9.70 |

Making a table with flextable:

| Names | Mean | SD |
| --- | --- | --- |
| Quebec | 33.54 | 9.67 |
| Mississippi | 20.88 | 7.82 |
| chilled | 23.78 | 10.88 |
| nonchilled | 30.64 | 9.70 |

The figure below shows the relationship between ambient CO2 concentration and CO2 uptake in the plants

library(ggplot2)  
  
ggplot(data=CO2, aes(x=conc, y=uptake)) + geom\_point(color=4, size=3) + labs(x="CO2 Concentration", y="CO2 Uptake", title="Figure 1. CO2 concentration and uptake") + theme\_bw()

