ANOVAs pro Gui

por Francisko de Moraes Rezende, francisko.rezende@gmail.com, 2020-03-26

```
# carregando os pacotes ----------------------------------------------------

lista_de_pacotes  <- c("tidyverse",
                       "readxl",
                       "here",
                       "lme4",
                       "janitor",
                       "ggbeeswarm",
                       "broom",
                       "tufte",
                       "ggthemes",
                       "ggpol")


pacotes_novos <-
  lista_de_pacotes[!(lista_de_pacotes %in% installed.packages()[, "Package"])]
if (length(pacotes_novos))
  install.packages(pacotes_novos)


library(tidyverse)
library(readxl)
library(here)
library(lme4)
library(janitor)
library(ggbeeswarm)
library(broom)
library(ggthemes)
library(ggpol)
```

Carregando os dados

ANOVA ui

Código

```
ui_m1 <- lm(ui ~ sp * face, data = ui)

anova(ui_m1)

ui_m2 <- update(ui_m1, . ~ . -sp:face)
```

```r
anova(ui_m2) %>%
  rename(`P value` = `Pr(>F)`)
```

Tabela ANOVA ui

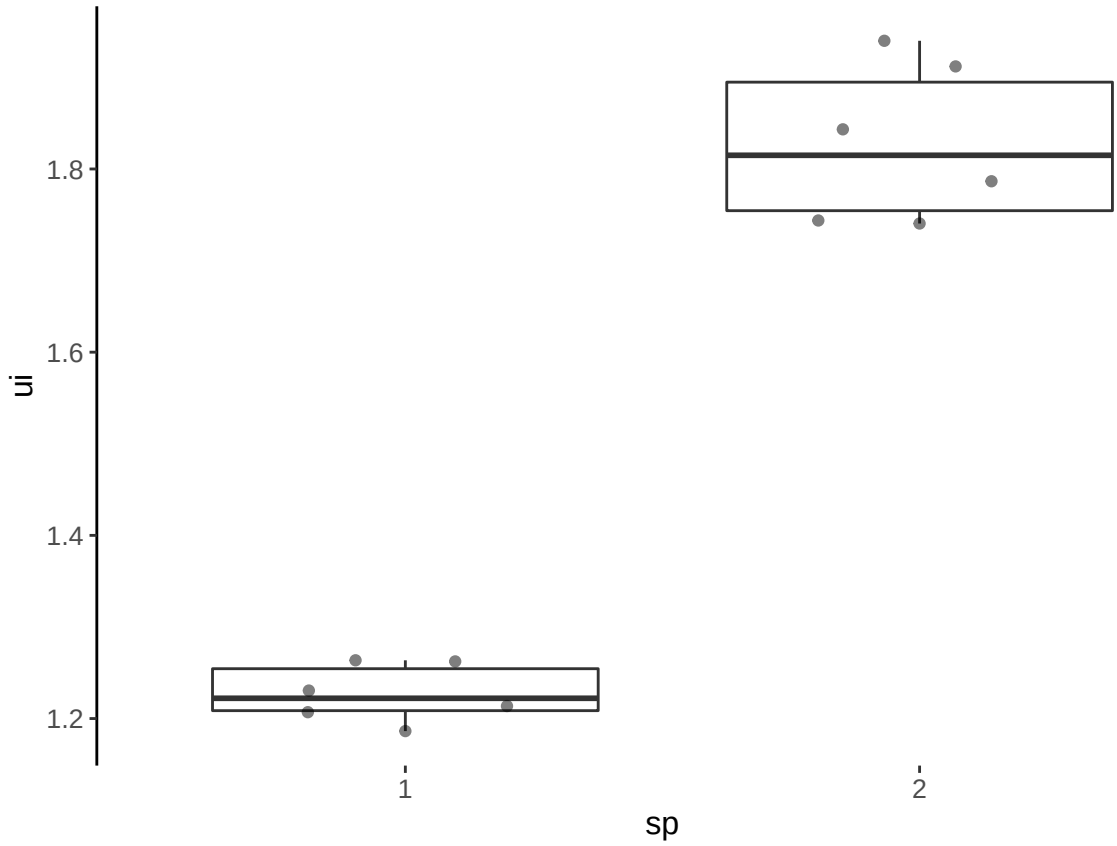
```r
anova(ui_m2) %>%
  rename(`P value` = `Pr(>F)`) %>%
  knitr::kable(digits = 3)
```

	Df	Sum Sq	Mean Sq	F value	P value
sp	1	1.082	1.082	238.52	0.000
face	1	0.000	0.000	0.07	0.798
Residuals	9	0.041	0.005	NA	NA

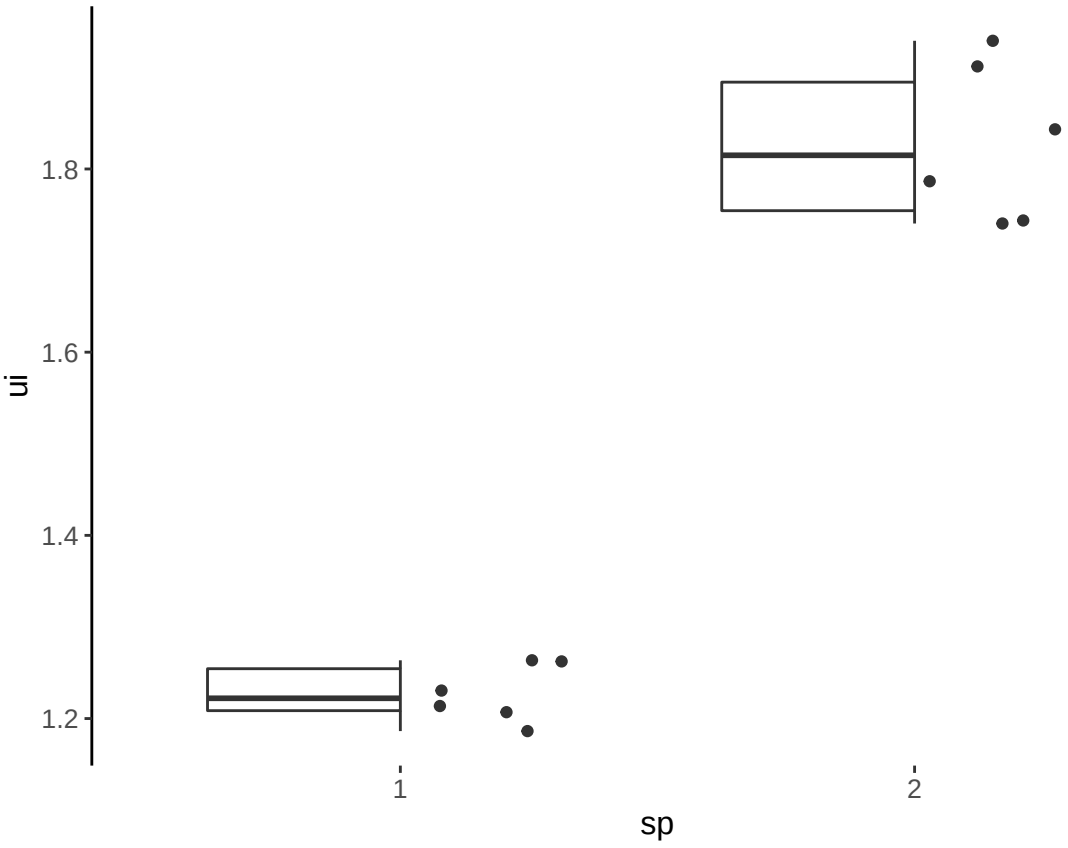
Gráfico

Os dois gráficos abaixo tem as mesmas informções, escolha o que mais lhe agradar.

```r
ui %>%
  ggplot(aes(x = sp, y = ui)) +
  geom_boxplot() +
  geom_quasirandom(groupOnX = T,
                   alpha = .5) +
  theme_classic() +
  theme(axis.line.x = element_blank(),
        text = element_text(size = 12))
```




```
ui %>%
  ggplot(aes(x = sp, y = ui)) +
  geom_boxjitter(jitter.height = 0) +
  theme_classic() +
  theme(axis.line.x = element_blank(),
        text = element_text(size = 12))
```



ANOVA angle

Código

```
angle_m1 <- lm(angle ~ sp*face, data = angle)

anova(angle_m1)

angle_m2 <- update(angle_m1, . ~ . - sp:face)

anova(angle_m1, angle_m2)

anova(angle_m2)
```

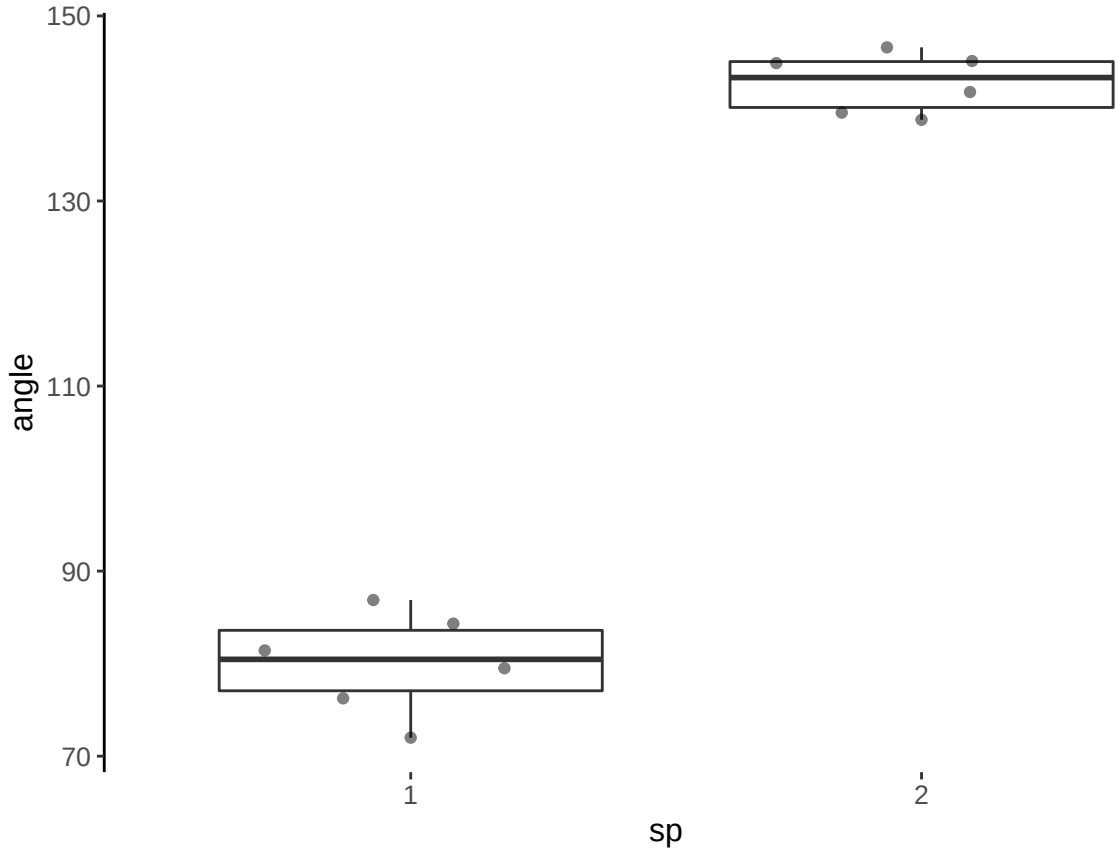
Tabela

	Df	Sum Sq	Mean Sq	F value	P value
sp	1	11803.277	11803.28	586.646	0.000
face	1	17.280	17.28	0.859	0.378
Residuals	9	181.079	20.12	NA	NA

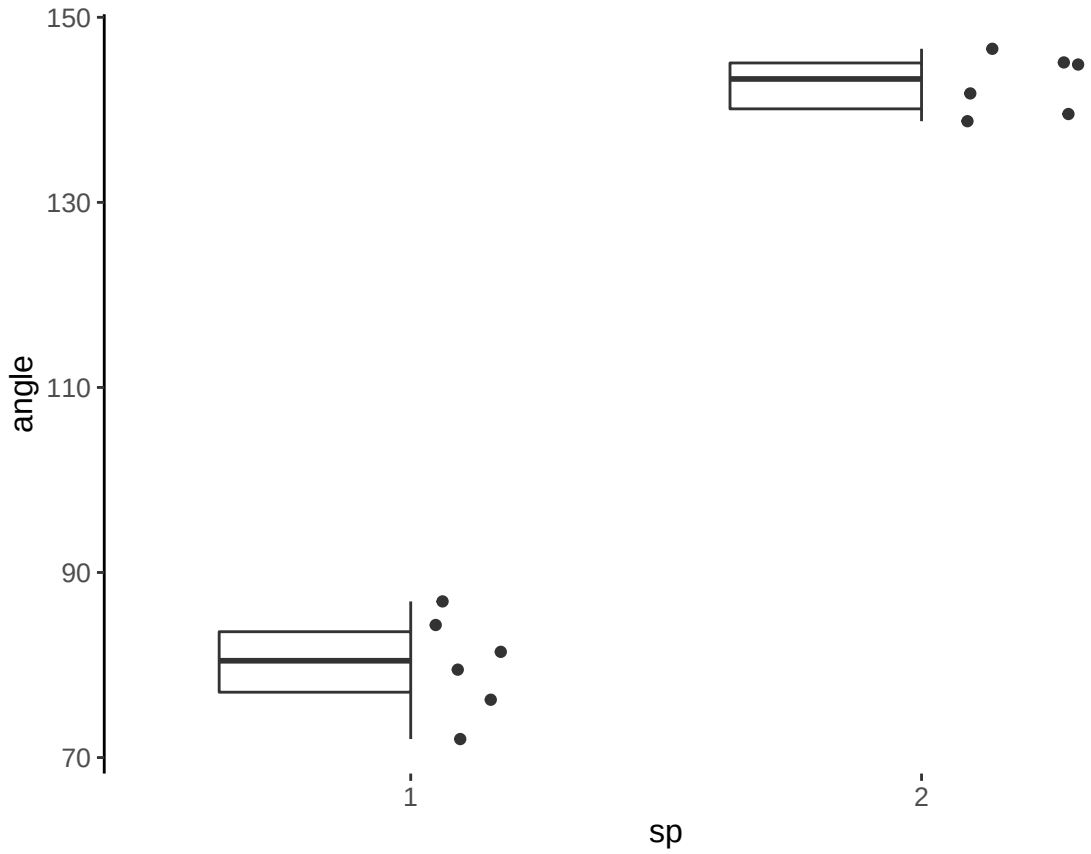
Gráfico

Os dois gráficos abaixo tem as mesmas informções, escolha o que mais lhe agradar.

```
angle %>%
  ggplot(aes(x = sp, y = angle)) +
  geom_boxplot() +
  geom_quasirandom(groupOnX = T,
                   alpha = .5) +
  theme_classic() +
  theme(axis.line.x = element_blank(),
        text = element_text(size = 12))
```




```
angle %>%
  ggplot(aes(x = sp, y = angle)) +
  geom_boxjitter(jitter.height = 0) +
  theme_classic() +
  theme(axis.line.x = element_blank(),
        text = element_text(size = 12))
```


150
130
110
90
70
angle
1
2
sp