Linear model & Linear Mixed Effects in R Tutorial

Hyuksu Ryu

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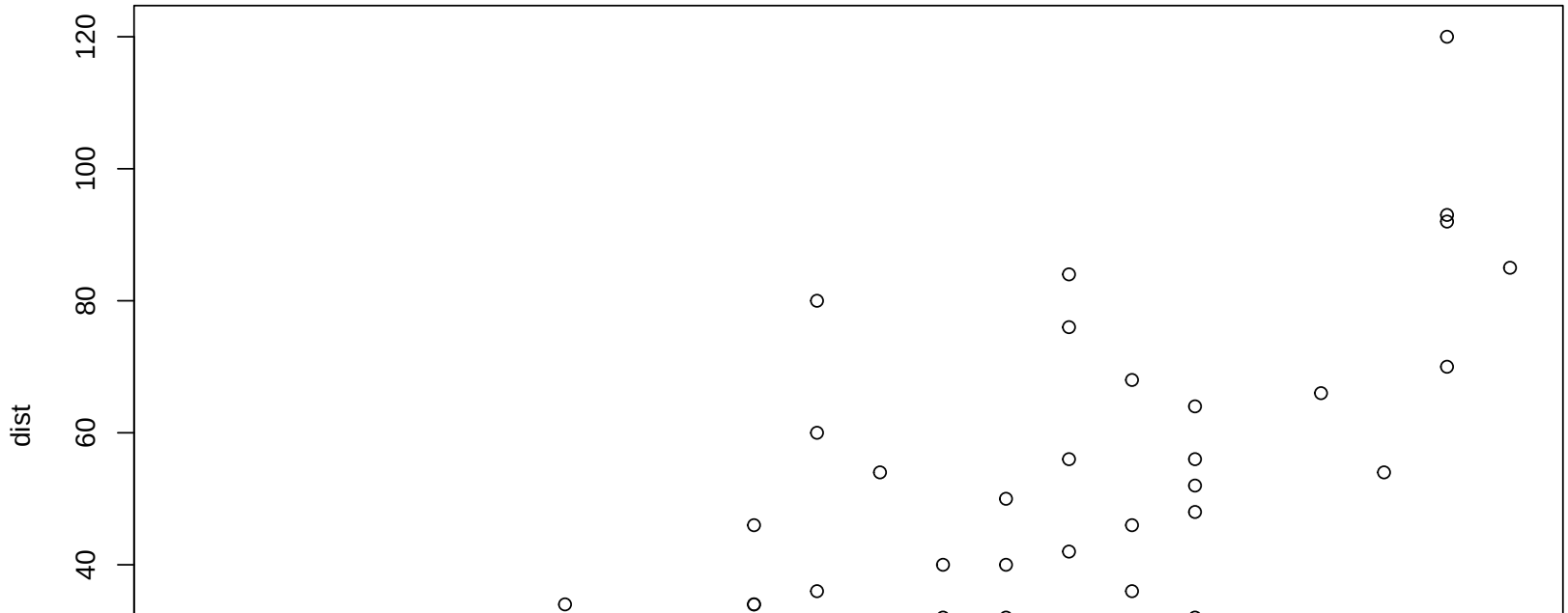
Introduction

R Markdown

This is an R Markdown Notebook. When you execute code within the notebook, the results appear beneath the code.

Try executing this chunk by clicking the *Run* button within the chunk or by placing your cursor inside it and pressing *Ctrl+Shift+Enter*.

```
plot(cars)
```



Insert chunk

Add a new chunk by clicking the *Insert Chunk* button on the toolbar or by pressing *Ctrl+Alt+I*.

When you save the notebook, an HTML file containing the code and output will be saved alongside it (click the *Preview* button or press *Ctrl+Shift+K* to preview the HTML file).

Linear model

Setting data frame

```
pitch = c(233, 204, 242, 130, 112, 142)
sex = c(rep("female", 3), rep("male", 3))
my.df = data.frame(sex, pitch) # data frame of 6 informants
my.df
```

```
##      sex pitch
## 1 female   233
## 2 female   204
## 3 female   242
## 4   male   130
## 5   male   112
## 6   male   142
```

Linear model

- Linear model

```
xmdl = lm(pitch ~ sex, my.df)
summary(xmdl)
```

```
##
## Call:
## lm(formula = pitch ~ sex, data = my.df)
##
## Residuals:
##       1       2       3       4       5       6
##   6.667 -22.333  15.667   2.000 -16.000  14.000
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)   226.33      10.18  22.224 2.43e-05 ***
## sexmale       -98.33      14.40  -6.827  0.00241 **
## ---
```