Chapter9Project

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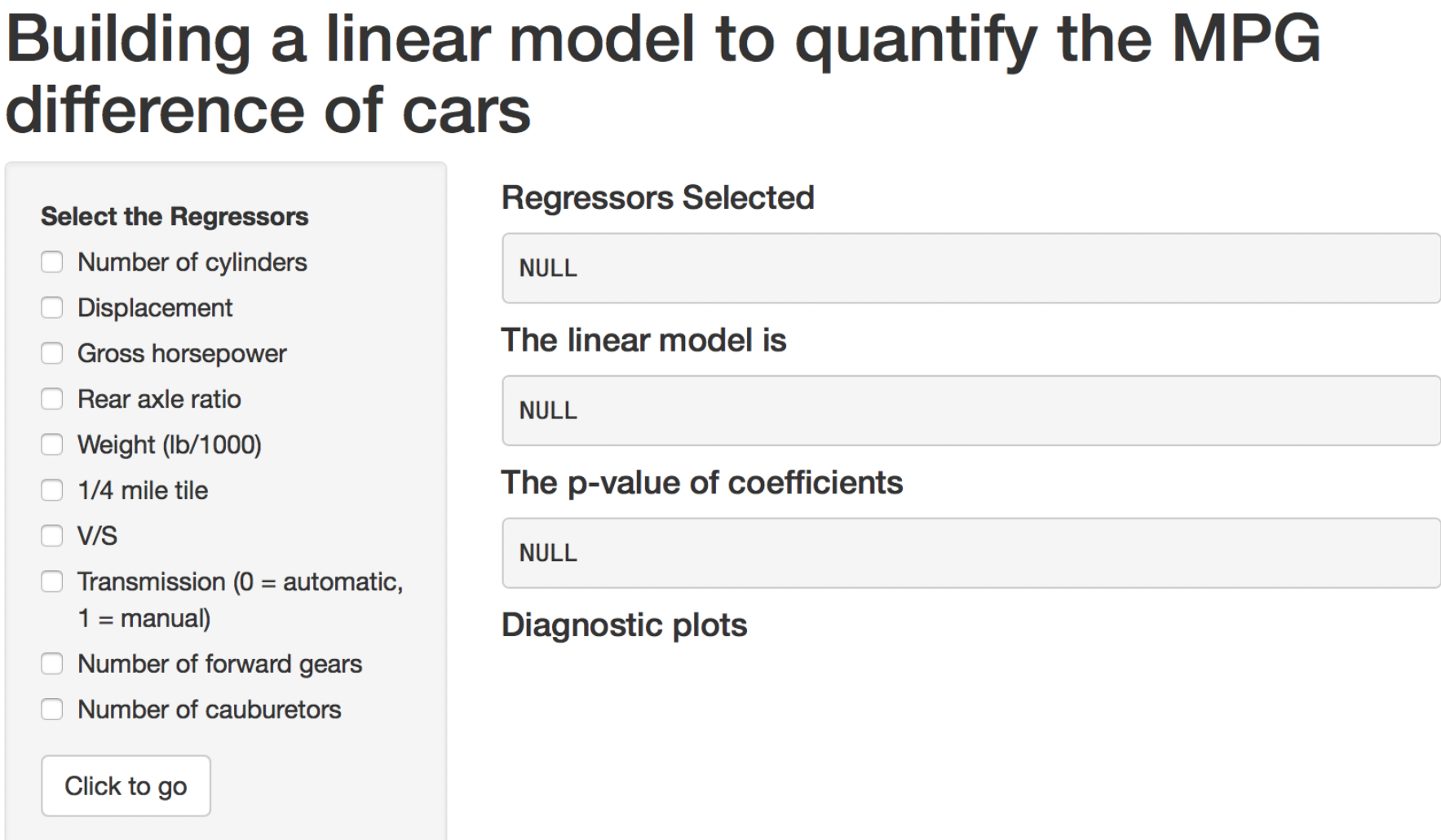
This presentation describes how my shiny appliation (https://lxwvictor.shinyapps.io/developingdataproducts/) works

Overview of the App

Below screenshot show the overview of the shiny app. - The left side is the input panel, right side is output panel - There is also a short documention about how to use the app not captured in below screenshot



How the app works

There are 11 variables of the mtcars dataset. But which one(s) of the 10 variables can be used to predict the mpg and how is the performance?

Use this application by just choosing the different variables it will calculate the p-value of the coefficients and make the diagnostic plots, which will be used to evaluate the performance of current model.

```
names(mtcars)
```

```
 [1] "mpg"  "cyl"  "disp" "hp"   "drat" "wt"   "qsec" "vs"   "am"   "gear"
[11] "carb"
```

Find the best model by using step function

Let's try with the best model given by the step function. The variables are *wt, qsec* and *am*.

```
full.model <- lm(mpg ~ ., data = mtcars)
reduced.model <- step(full.model, direction = "backward")
```

```
             Estimate Std. Error   t value     Pr(>|t|)
(Intercept)  9.617781  6.9595930  1.381946 1.779152e-01
wt          -3.916504  0.7112016 -5.506882 6.952711e-06
qsec         1.225886  0.2886696  4.246676 2.161737e-04
am           2.935837  1.4109045  2.080819 4.671551e-02
```

Result of the best model

Based on the result calculated from previous slide. The p-value and diagnostic plot shown as below.

The p-value of coefficients

```
 (Intercept)           wt         qsec           am
1.779152e-01 6.952711e-06 2.161737e-04 4.671551e-02
```

Diagnostic plots