Multiple Regression Models II

More models with multiple predictors

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Visualizing models with multiple predictors

Plot Code

```
p <- plot_ly(pp,
  x = ~Width_in, y = ~Height_in, z = ~log_price,
  marker = list(size = 3, color = "lightgray", alpha = 0.5,
                line = list(color = "gray", width = 2))) %>%
  add_markers() %>%
  plotly::layout(scene = list(
    xaxis = list(title = "Width (in)"),
    yaxis = list(title = "Height (in)"),
    zaxis = list(title = "log_price")
  )) %>%
  config(displayModeBar = FALSE)
frameWidget(p)
```

Typical surface area

Plot Code

```
ggplot(data = pp, aes(x = Surface, fill = artistliving)) +
  geom_histogram(binwidth = 500) +
  facet_grid(artistliving ~ .) +
  scale_fill_manual(values = c("#E48957", "#071381")) +
  guides(fill = FALSE) +
  labs(x = "Surface area", y = NULL) +
  geom_vline(xintercept = 1000) +
  geom_vline(xintercept = 5000, linetype = "dashed", color = "gray")
```

```
## Warning: Removed 176 rows containing non-finite values
## (stat_bin).
```

Narrowing the scope

Plot Code

```
pp_Surf_lt_5000 <- pp %>%
  filter(Surface < 5000)

ggplot(data = pp_Surf_lt_5000,
       aes(y = log_price, x = Surface, color = artistliving, shape = artistliving)) +
  geom_point(alpha = 0.5) +
  labs(color = "Artist", shape = "Artist") +
  scale_color_manual(values = c("#E48957", "#071381"))
```

Facet to get a better look

Plot Code

```
ggplot(data = pp_Surf_lt_5000,
       aes(y = log_price, x = Surface, color = artistliving, shape = artistliving)) +
  geom_point(alpha = 0.5) +
  facet_wrap(~artistliving) +
  scale_color_manual(values = c("#E48957", "#071381")) +
  labs(color = "Artist", shape = "Artist")
```