

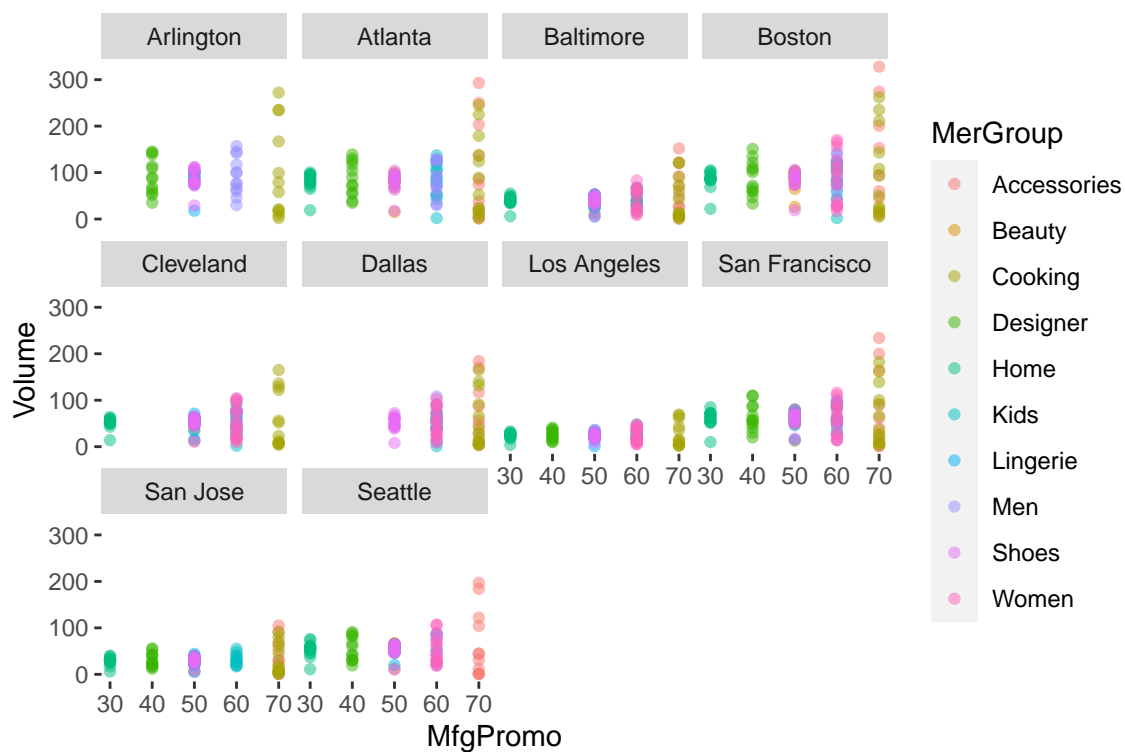
Multilevel Modeling Homework

Overview

Load the following libraries:

And load the same data we used from the class exercise, but this time we'll look at the relationship between Manufacturer Promo (*the dollars contributed by the suppliers in the Merchandise Groups for advertising / promotion*).

Take a quick look at this relationship across Merchandise Groups and Locations:



Note that not all locations sell all merchandise groups. For example, Arlington and San Jose sell the following groups.

```
sTab = SalesTrans %>% filter(Description %in% c("Arlington", "San Jose")) %>%
  group_by(Description, MerGroup, MfgPromo) %>% summarise(WkTot = n(), WkAvg = round((WkTot/12),0))

knitr::kable(sTab) %>%
  kable_styling(full_width = F, bootstrap_options = "striped", font_size = 9)
```

Description	MerGroup	MfgPromo	WkTot	WkAvg
Arlington	Cooking	70	1209	101
Arlington	Designer	40	1102	92
Arlington	Lingerie	50	1213	101
Arlington	Men	60	1114	93
Arlington	Shoes	50	1213	101
San Jose	Accessories	70	404	34
San Jose	Beauty	50	404	34
San Jose	Cooking	70	403	34
San Jose	Designer	40	376	31
San Jose	Home	30	404	34
San Jose	Kids	60	357	30
San Jose	Lingerie	50	404	34
San Jose	Shoes	50	404	34

If we start selling accessories in Arlington, and increase Manufacturer's Promo by \$10, What volume would we expect?

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Show your code and output the answers.