

Template for 5501-01 programming assignment

AUTHOR
Michael Dang

PUBLISHED
August 26, 2024

This program reads data on housing prices in Albuquerque, New Mexico in 1993. Find more information in the [data dictionary](#).

This code is placed in the public domain.

Load the tidyverse library

For most of your programs, you should load the tidyverse library. The messages and warnings are suppressed.

```
library(tidyverse)
```

Read the data and view a brief summary

Use the `read_csv` function to read the data. The `glimpse` function will produce a brief summary.

```
alb <- read_csv(  
  file="../data/albuquerque-housing.csv",  
  col_names=TRUE,  
  col_types="nnnnccc",  
  na=".")  
glimpse(alb)
```

Rows: 117

Columns: 7

```
$ price      <dbl> 205000, 208000, 215000, 215000, 199900, 190000, 180000, 1...  
$ sqft       <dbl> 2650, 2600, 2664, 2921, 2580, 2580, 2774, 1920, 2150, 171...  
$ age        <dbl> 13, NA, 6, 3, 4, 4, 2, 1, NA, 1, 4, 8, 15, 14, 18, NA, 16...  
$ features    <dbl> 7, 4, 5, 6, 4, 4, 4, 5, 4, 3, 5, 6, 3, 5, 8, 3, 4, 3, 4, ...  
$ northeast   <chr> "yes", "yes", "yes", "yes", "yes", "yes", "yes", "yes", "yes", "...  
$ custom_build <chr> "yes", "yes", "yes", "yes", "yes", "no", "no", "yes", "no...  
$ corner_lot  <chr> "no", "no", "no", "no", "no", "no", "no", "no", "no", "no..."
```

Calculate overall means

The `summarize_if` function produces means, but only for numeric data. You wouldn't want to compute means for data with values "yes" and "no".

```
alb |>  
  summarise_if(is.numeric, mean, na.rm = TRUE)
```

```
# A tibble: 1 × 4
  price  sqft  age features
  <dbl> <dbl> <dbl>   <dbl>
1 106274. 1654.  15.0     3.53
```

Summarize price

The average price of a home, 106 thousand dollars, is quite low because the data comes from 1993.

Summarize sqft

The average square foot of a home, 1,653 square feet, is quite low. However, different cities and states have different housing.

Summarize age

The average age of a house is almost 15 years, which is not too old in terms of housing.

Summarize features

The average feature of a house is between 3 and 4 features. So the average house will have between 3 and 4 features in it. Again, this data is back from 1993, hence most of the variables are different now.