Lab 2

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R Lab 2. Review of T-tests and F-tests

```
library(tidyverse)
```

```
## -- Attaching packages --- tidyverse 1.3.0 --
```

```
## v ggplot2 3.3.2     v purrr   0.3.4
## v tibble  3.0.3     v dplyr   1.0.2
## v tidyr   1.1.2     v stringr 1.4.0
## v readr   1.3.1     v forcats 0.5.0
```

```
## -- Conflicts ------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
H <- read_csv("HOME_SALES.csv")
```

```
## Parsed with column specification:
## cols(
##   ID = col_double(),
##   SALES_PRICE = col_double(),
##   FINISHED_AREA = col_double(),
##   BEDROOMS = col_double(),
##   BATHROOMS = col_double(),
##   GARAGE_SIZE = col_double(),
##   YEAR_BUILT = col_double(),
##   STYLE = col_double(),
##   LOT_SIZE = col_double(),
##   AIR_CONDITIONER = col_character(),
##   POOL = col_character(),
##   QUALITY = col_character(),
##   HIGHWAY = col_character()
## )
```

```
head(H)
```

```
## # A tibble: 6 x 13
##      ID SALES_PRICE FINISHED_AREA BEDROOMS BATHROOMS GARAGE_SIZE YEAR_BUILT
##   <dbl>       <dbl>         <dbl>    <dbl>     <dbl>       <dbl>      <dbl>
## 1     1         360          3032        4         4           2       1972
## 2     2         340          2058        4         2           2       1976
## 3     3         250          1780        4         3           2       1980
## 4     4         206.         1638        4         2           2       1963
## 5     5         276.         2196        4         3           2       1968
```

```
## 6     6        248           1966        4         3           5       1972
## # ... with 6 more variables: STYLE <dbl>, LOT_SIZE <dbl>,
## #   AIR_CONDITIONER <chr>, POOL <chr>, QUALITY <chr>, HIGHWAY <chr>
```

```
attach(H)
t.test(SALES_PRICE, mu=300)
```

```
##
##  One Sample t-test
##
## data:  SALES_PRICE
## t = -3.6619, df = 521, p-value = 0.0002759
## alternative hypothesis: true mean is not equal to 300
## 95 percent confidence interval:
##  266.0348 289.7535
## sample estimates:
## mean of x
##  277.8941
```

```
# compute the t-statistic by hand
n = length(SALES_PRICE)
n
```

```
## [1] 522
```

```
mean(SALES_PRICE)
```

```
## [1] 277.8941
```

```
sd(SALES_PRICE)
```

```
## [1] 137.9234
```