McKibben Ex. 5.2 R Markdown

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```
knitr::opts_chunk$set(echo = TRUE)
# Makayla McKibben
# DSC520
# Week 5
# Assignment 5.2

#install.packages("purrr")
library(purrr)
```

```
## Warning: package 'purrr' was built under R version 4.4.1
```

```
#install.packages("tidyverse")
library(stringr)
library(dplyr)
```

```
## Warning: package 'dplyr' was built under R version 4.4.1
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
# Importing the data set
housing <- read.csv(file = 'Housing.csv', header = TRUE,
                    sep =",", stringsAsFactors = FALSE)

# Checking what's in the data set
head(str(housing))
```

```
## 'data.frame':    12865 obs. of  24 variables:
##  $ Sale.Date              : chr  "1/3/2006" "1/3/2006" "1/3/2006" "1/3/2006" ...
##  $ Sale.Price             : int  698000 649990 572500 420000 369900 184667 1050000 875000 660000 65
##  $ sale_reason            : int  1 1 1 1 1 1 1 1 1 1 ...
```

```
##  $ sale_instrument         : int  3 3 3 3 3 15 3 3 3 3 ...
##  $ sale_warning            : chr  "" "" "" "" ...
##  $ sitetype                : chr  "R1" "R1" "R1" "R1" ...
##  $ addr_full               : chr  "17021 NE 113TH CT" "11927 178TH PL NE" "13315 174TH AVE NE" "3303
##  $ zip5                    : int  98052 98052 98052 98052 98052 98053 98053 98053 98053 98052 ...
##  $ ctyname                 : chr  "REDMOND" "REDMOND" "" "REDMOND" ...
##  $ postalctyn              : chr  "REDMOND" "REDMOND" "REDMOND" "REDMOND" ...
##  $ lon                     : num  -122 -122 -122 -122 -122 ...
##  $ lat                     : num  47.7 47.7 47.7 47.6 47.7 ...
##  $ building_grade          : int  9 9 8 8 7 7 10 10 9 8 ...
##  $ square_feet_total_living: int  2810 2880 2770 1620 1440 4160 3960 3720 4160 2760 ...
##  $ bedrooms                : int  4 4 4 3 3 4 5 4 4 4 ...
##  $ bath_full_count         : int  2 2 1 1 1 2 3 2 2 1 ...
##  $ bath_half_count         : int  1 0 1 0 0 1 0 1 1 0 ...
##  $ bath_3qtr_count         : int  0 1 1 1 1 1 1 0 1 1 ...
##  $ year_built              : int  2003 2006 1987 1968 1980 2005 1993 1988 1978 1976 ...
##  $ year_renovated          : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ current_zoning          : chr  "R4" "R4" "R6" "R4" ...
##  $ sq_ft_lot               : int  6635 5570 8444 9600 7526 7280 97574 30649 42688 94889 ...
##  $ prop_type               : chr  "R" "R" "R" "R" ...
##  $ present_use             : int  2 2 2 2 2 2 2 2 2 2 ...
```

```
## NULL
```

```
# Searching for houses in my price range
f_house <- filter(housing, between(Sale.Price,
                                   400000, 500000), .by = Sale.Price) %>%
  arrange( , desc(Sale.Price), .by_group = TRUE, .locale = "en")

# Checking the results
head(f_house, 25)
```

```
##     Sale.Date Sale.Price sale_reason sale_instrument sale_warning sitetype
## 1   2/21/2006     500000           1               3                    R1
## 2   3/14/2006     500000           1               3           51       R1
## 3    5/5/2006     500000           1               3                    R1
## 4   5/11/2006     500000           1               3                    R1
## 5   6/25/2006     500000           1               3                    R1
## 6   6/27/2006     500000           1               2           15       R1
## 7  10/13/2006     500000           1               3                    R1
## 8   11/2/2006     500000           1               3                    R1
## 9    1/2/2007     500000           1               3        15 26       R1
## 10  1/23/2007     500000           1               3                    R1
## 11  3/15/2007     500000           1               3                    R1
## 12   5/8/2007     500000           1               3           45       R1
## 13   5/8/2007     500000           1               3           45       R1
## 14  5/23/2007     500000           1               3           49       R3
## 15 11/13/2007     500000           1               3                    R1
## 16 11/15/2007     500000           1               3                    R1
## 17 11/30/2007     500000           1               3                    R1
## 18  12/3/2007     500000           1               3                    R1
## 19 12/19/2007     500000           1               3                    R1
## 20   3/6/2008     500000           1               3                    R1
```

```
## 21  4/21/2008     500000           1               3                    R1
## 22  4/28/2008     500000           1               3                    R1
## 23  6/16/2008     500000           1               3                    R1
## 24  7/16/2008     500000           1               3                    R1
## 25  8/27/2008     500000           1               3                    R1
##                 addr_full  zip5 ctyname postalctyn       lon      lat
## 1         18612 NE 25TH ST 98052 REDMOND    REDMOND -122.0903 47.63186
## 2        13822 181ST LN NE 98052            REDMOND -122.0990 47.72501
## 3         9903 170TH PL NE 98052 REDMOND    REDMOND -122.1138 47.68884
## 4       13621 179TH AVE NE 98052            REDMOND -122.1016 47.72238
## 5         8030 199TH AVE NE 98053            REDMOND -122.0750 47.67598
## 6        16615 NE 108TH PL 98052 REDMOND    REDMOND -122.1180 47.69673
## 7         16608 NE 46TH ST 98052 REDMOND    REDMOND -122.1184 47.65067
## 8       10627 181ST AVE NE 98052 REDMOND    REDMOND -122.0997 47.69545
## 9        17031 NE 135TH CT 98052            REDMOND -122.1133 47.72059
## 10        9190 226TH PL NE 98053            REDMOND -122.0376 47.68273
## 11        8257 233RD PL NE 98053            REDMOND -122.0289 47.67678
## 12        16853 NE 88TH ST 98052 REDMOND    REDMOND -122.1146 47.68054
## 13        8721 169TH PL NE 98052 REDMOND    REDMOND -122.1145 47.68035
## 14         27921 E MAIN ST 98053            REDMOND -121.9690 47.60607
## 15       2110 175TH AVE NE 98052 REDMOND    REDMOND -122.1066 47.62943
## 16       4010 172ND AVE NE 98052 REDMOND    REDMOND -122.1106 47.64633
## 17 22668 NE FERN REACH CIR 98053            REDMOND -122.0376 47.68433
## 18       3310 179TH AVE NE 98052 REDMOND    REDMOND -122.1016 47.63918
## 19      24179 NE 131ST TER 98053            REDMOND -122.0172 47.71576
## 20       2806 178TH AVE NE 98052 REDMOND    REDMOND -122.1024 47.63490
## 21      10613 184TH AVE NE 98052 REDMOND    REDMOND -122.0966 47.69492
## 22        14415 NE 65TH ST 98052 REDMOND    REDMOND -122.1472 47.66440
## 23       10215 161ST PL NE 98052 REDMOND    REDMOND -122.1256 47.69141
## 24   10824 EASTRIDGE DR NE 98053            REDMOND -122.0171 47.69508
## 25        8620 169TH PL NE 98052 REDMOND    REDMOND -122.1137 47.67971
##    building_grade square_feet_total_living bedrooms bath_full_count
## 1               8                     2340        4               1
## 2               9                     2720        3               2
## 3               8                     2560        4               1
## 4               8                     1940        4               2
## 5               7                     2900        5               2
## 6               7                     1850        3               1
## 7               8                     1570        3               1
## 8               8                     1930        3               1
## 9              10                     2490        4               2
## 10              7                     2100        4               2
## 11              7                     1690        3               2
## 12             10                     3770        4               4
## 13             10                     3560        4               3
## 14              7                     1590        3               2
## 15              8                     1560        3               1
## 16              8                     3300        5               2
## 17              7                     2440        3               2
## 18              8                     1740        3               1
## 19              8                     1900        2               2
## 20              8                     2100        4               2
## 21              8                     1990        3               1
## 22              7                     1620        4               1
```

```
## 23              7                    1390        3              2
## 24              8                    2020        3              2
## 25              8                    1680        3              2
##    bath_half_count bath_3qtr_count year_built year_renovated current_zoning
## 1                0               1       1975              0            R3
## 2                1               0       1984              0           RA5
## 3                0               1       1979              0            R5
## 4                1               0       1983              0            R6
## 5                0               1       1952              0           RA5
## 6                0               1       1977              0            R4
## 7                0               1       1974              0            R4
## 8                1               1       1984              0            R4
## 9                1               0       1984              0         RA2.5
## 10               1               0       2003              0         URPSO
## 11               1               0       2005              0         URPSO
## 12               1               0       2008              0            R5
## 13               1               0       2008              0            R5
## 14               0               0       2010              0           RA5
## 15               0               1       1969              0            R3
## 16               0               1       1955              0            R4
## 17               1               0       2001              0         URPSO
## 18               0               1       1968              0            R4
## 19               1               0       2008              0         URPSO
## 20               0               0       1966              0            R4
## 21               0               2       1983              0            R4
## 22               1               0       1970              0            R5
## 23               0               0       1977              0            R6
## 24               1               0       2008              0         URPSO
## 25               1               0       1988              0            R5
##    sq_ft_lot prop_type present_use
## 1      11745         R           2
## 2      42848         R           2
## 3       7425         R           2
## 4       8743         R           2
## 5      24750         R           2
## 6       9600         R           2
## 7       7500         R           2
## 8       7412         R           2
## 9      20241         R           2
## 10      4698         R           2
## 11      3827         R           2
## 12     10260         R           2
## 13     10260         R           2
## 14    216928         R           2
## 15     11228         R           2
## 16      9452         R           2
## 17      4285         R           2
## 18      9250         R           2
## 19      3436         R          29
## 20     10042         R           2
## 21     11892         R           2
## 22      8140         R           2
## 23      7800         R           2
## 24      4674         R           2
```

```
## 25      7728         R           2
```

```
# Splitting the data
head(select(housing, c(Sale.Price, square_feet_total_living, sq_ft_lot)), 25)
```

```
##    Sale.Price square_feet_total_living sq_ft_lot
## 1      698000                     2810      6635
## 2      649990                     2880      5570
## 3      572500                     2770      8444
## 4      420000                     1620      9600
## 5      369900                     1440      7526
## 6      184667                     4160      7280
## 7     1050000                     3960     97574
## 8      875000                     3720     30649
## 9      660000                     4160     42688
## 10     650000                     2760     94889
## 11     599950                     2180      7949
## 12     526787                     2480      2647
## 13     470000                     2230     12070
## 14     165000                     1850    278891
## 15     803000                     3180     95013
## 16     507950                     2480      3099
## 17     765000                     4000      7611
## 18     589950                     2570      4737
## 19     501000                     2620      9649
## 20     372500                     1620     47480
## 21     513262                     1930      4958
## 22     482000                     2360      4080
## 23     765000                     3520     35348
## 24     372500                     1640      3279
## 25     265000                     4920    112650
```

```
# Organizing the data
head(arrange(housing, desc(square_feet_total_living),
        .by_group = TRUE, .locale = "en"), 25)
```

```
##     Sale.Date Sale.Price sale_reason sale_instrument sale_warning sitetype
## 1  11/19/2012    2300000           4              18        13 31       R1
## 2   5/21/2013    1300000           1              22                    R1
## 3    5/5/2014    2280000           1               3                    R1
## 4  11/30/2012    3000000           4              18        15 31       R1
## 5  12/11/2012    2491149           4              18     13 15 31       R1
## 6   2/26/2008    3995000           1               3                    R1
## 7    5/8/2007    2988000           1               3           45       R1
## 8    1/5/2012    1775000           7               3           12       R1
## 9    3/2/2007     349999           1               3                    R1
## 10  6/24/2015    1050000           1               3        46 60       R1
## 11  6/13/2013      14000           1              26                    R1
## 12 10/18/2006    1007000           1               3           52       R1
## 13  6/20/2006     350000           1               3           49       R1
## 14  6/19/2006    2569000           1               3                    R1
## 15 12/11/2007    1825000           1               3                    R1
## 16   3/9/2010     800000           1              22           15       R1
```

```
## 17   1/9/2007     452800           1               3                    R1
## 18  8/10/2006     450000           1               3           45       R1
## 19   4/9/2010    2300000           1               3           45       R1
## 20  4/25/2016    3175000           1               3           45       R1
## 21  5/25/2016    2077000           1               3                    R1
## 22   7/9/2007     975000           1               3                    DV
## 23  6/19/2008    2189000           1               3                    R1
## 24  4/22/2011    1500000           1               3                    R1
## 25   5/7/2014       8000           1              26           43       R1
##                         addr_full  zip5 ctyname postalctyn       lon      lat
## 1                  26408 NE 70TH ST 98053            REDMOND -121.9857 47.66751
## 2                  26408 NE 70TH ST 98053            REDMOND -121.9857 47.66751
## 3                  26408 NE 70TH ST 98053            REDMOND -121.9857 47.66751
## 4    2222 W LAKE SAMMAMISH PKWY NE 98052 REDMOND    REDMOND -122.0874 47.62981
## 5    2222 W LAKE SAMMAMISH PKWY NE 98052 REDMOND    REDMOND -122.0874 47.62981
## 6                13707 160TH AVE NE 98052            REDMOND -122.1272 47.72393
## 7                 4130 244TH AVE NE 98053            REDMOND -122.0108 47.64601
## 8                 3453 260TH AVE NE 98053            REDMOND -121.9900 47.64154
## 9  14338 WOODINVILLE REDMOND RD NE 98052            REDMOND -122.1381 47.73097
## 10                8513 255TH AVE NE 98053            REDMOND -121.9994 47.67765
## 11                 20210 NE 85TH ST 98053            REDMOND -122.0724 47.68034
## 12                 6890 156TH PL NE 98052 REDMOND    REDMOND -122.1310 47.66676
## 13          24300 NE UNION HILL RD 98053            REDMOND -122.0140 47.66268
## 14                8027 255TH AVE NE 98053            REDMOND -122.0000 47.67470
## 15                9216 132ND AVE NE 98052 REDMOND    REDMOND -122.1619 47.68431
## 16                6910 264TH AVE NE 98053            REDMOND -121.9852 47.66578
## 17                25509 NE 100TH ST 98053            REDMOND -121.9986 47.68701
## 18                 7350 259TH PL NE 98053            REDMOND -121.9927 47.66975
## 19                 7350 259TH PL NE 98053            REDMOND -121.9927 47.66975
## 20                 7350 259TH PL NE 98053            REDMOND -121.9927 47.66975
## 21                 5850 245TH PL NE 98053            REDMOND -122.0112 47.65978
## 22               13340 180TH AVE NE 98052            REDMOND -122.0984 47.72006
## 23                7607 224TH AVE NE 98053            REDMOND -122.0424 47.67281
## 24                 8549 246TH LN NE 98053            REDMOND -122.0133 47.68100
## 25                 20338 NE 85TH ST 98053            REDMOND -122.0692 47.68341
##    building_grade square_feet_total_living bedrooms bath_full_count
## 1              12                    13540        7               1
## 2              12                    13540        7               1
## 3              12                    13540        7               1
## 4              12                    13210        4               2
## 5              12                    13210        4               2
## 6              13                    11810        7               4
## 7              12                    10630        5               4
## 8              12                     9720        4               2
## 9              10                     9360        4               3
## 10             11                     9070        6               5
## 11             12                     8750        5               2
## 12             12                     8610        4               3
## 13             11                     8490        7               3
## 14             12                     8090        4               3
## 15             12                     7980       11               3
## 16             11                     7810        5               5
## 17             12                     7780        5               3
## 18             12                     7640        5               5
```

```
## 19             12                   7640        5              5
## 20             12                   7640        5              5
## 21             11                   7580        4              4
## 22             12                   7430        5              2
## 23             12                   7360        6              3
## 24             12                   7120        4              4
## 25             11                   7110        4              3
##    bath_half_count bath_3qtr_count year_built year_renovated current_zoning
## 1                2               8       1999              0           RA10
## 2                2               8       1999              0           RA10
## 3                2               8       1999              0           RA10
## 4                3               4       2008              0             R4
## 5                3               4       2008              0             R4
## 6                1               4       2000              0        RA2.5SO
## 7                1               1       2003              0           RA5
## 8                3               2       1988              0           RA5
## 9                1               1       2009              0        RA2.5SO
## 10               2               0       2005              0           RA5
## 11               2               3       1996              0           RA5
## 12               2               1       1982              0           R12
## 13               8               1       2008              0           RA5
## 14               1               1       2006              0           RA5
## 15               6               2       2002              0            R5
## 16               1               2       2011              0           RA5
## 17               2               1       2008              0          RA10
## 18               1               0       2007              0           RA5
## 19               1               0       2007              0           RA5
## 20               1               0       2007              0           RA5
## 21               1               0       2001              0           RA5
## 22               1               2       2008              0           RA5
## 23               1               1       1991              0           RA5
## 24               1               0       1999              0           RA5
## 25               2               0       2006              0           RA5
##    sq_ft_lot prop_type present_use
## 1     307752         R           2
## 2     307752         R           2
## 3     307752         R           2
## 4      29728         R           2
## 5      29728         R           2
## 6     139392         R           2
## 7     207781         R           2
## 8      81335         R           2
## 9      45738         R           2
## 10    186525         R           2
## 11   1631322         R           2
## 12     37388         R           6
## 13    118483         R         300
## 14    176418         R         300
## 15     13220         R           2
## 16    277286         R           2
## 17    266152         R           2
## 18    144683         R           2
## 19    144683         R           2
## 20    144683         R           2
```

```
## 21     55757         R           2
## 22    226512         R           2
## 23    287060         R           2
## 24    432175         R           2
## 25    209088         R           2
```

```
head(arrange(housing, desc(sq_ft_lot), .by_group = TRUE, .locale = "en"), 25)
```

```
##     Sale.Date Sale.Price sale_reason sale_instrument sale_warning sitetype
## 1   6/13/2013      14000           1              26                   R1
## 2    3/2/2010    4400000           1               3        35 45       R1
## 3   3/29/2016    2165000           1               3                   R1
## 4   3/29/2016    2165000           1               3                   R1
## 5    7/6/2010        698           1              26           24       R1
## 6    7/6/2010        698           1              26           24       R1
## 7  12/13/2007     379950           1               3                   R1
## 8  11/28/2016    2050000           1               3                   R1
## 9   3/27/2012    1692000           1               3                   R1
## 10 11/25/2014    2140000           1               3                   R1
## 11  3/23/2006    1490000           1               3                   R1
## 12  9/16/2013     790000           1               3     35 51 52      R1
## 13  9/16/2013     790000           1               3     35 51 52      R1
## 14  4/24/2013     900000           1               3        45 49      R1
## 15  5/24/2010     400000           1              22        26 46      R1
## 16  8/22/2006    1299950           1               3                   R1
## 17   3/2/2010    4400000           1               3        35 45      R1
## 18   7/2/2015    1500000           1               3                   R1
## 19  9/18/2009    1100000           1               3           26      R1
## 20   4/6/2006      90000           1              26                   R1
## 21   4/6/2006      90000           1              26                   R1
## 22  10/2/2006      32000           1              26                   R1
## 23  4/30/2010       6000           1              26           24      R1
## 24   4/6/2006     275000           1               3           15      R1
## 25 11/29/2011     280877           4              18        13 31      R1
##                    addr_full  zip5 ctyname postalctyn       lon      lat
## 1           20210 NE 85TH ST 98053           REDMOND -122.0724 47.68034
## 2          12053 154TH PL NE 98052           REDMOND -122.1345 47.70950
## 3         11207 248TH AVE NE 98053           REDMOND -122.0090 47.69878
## 4         11207 248TH AVE NE 98053           REDMOND -122.0090 47.69878
## 5   19805 NE NOVELTY HILL RD 98053           REDMOND -122.0741 47.68643
## 6   19805 NE NOVELTY HILL RD 98053           REDMOND -122.0741 47.68643
## 7          6415 196TH AVE NE 98053           REDMOND -122.0798 47.66254
## 8          6415 196TH AVE NE 98053           REDMOND -122.0798 47.66254
## 9          8565 261ST AVE NE 98053           REDMOND -121.9914 47.67951
## 10         8565 261ST AVE NE 98053           REDMOND -121.9914 47.67951
## 11        11500 244TH AVE NE 98053           REDMOND -122.0136 47.70097
## 12         5616 196TH AVE NE 98053           REDMOND -122.0759 47.65672
## 13         5616 196TH AVE NE 98053           REDMOND -122.0759 47.65672
## 14         5703 208TH AVE NE 98053           REDMOND -122.0639 47.65868
## 15         4045 220TH AVE NE 98053           REDMOND -122.0496 47.64682
## 16         8715 250TH AVE NE 98053           REDMOND -122.0062 47.67932
## 17         12025 154TH PL NE 98052           REDMOND -122.1350 47.70801
## 18    22440 NE UNION HILL RD 98053           REDMOND -122.0395 47.66829
## 19    21407 NE UNION HILL RD 98053           REDMOND -122.0530 47.66846
```

```
## 20        1520 268TH AVE NE 98053           REDMOND -121.9787 47.62110
## 21        1520 268TH AVE NE 98053           REDMOND -121.9787 47.62110
## 22        8700 196TH AVE NE 98053           REDMOND -122.0782 47.67993
## 23        8700 196TH AVE NE 98053           REDMOND -122.0782 47.67993
## 24        2930 288TH AVE NE 98053           REDMOND -121.9511 47.63584
## 25        2930 288TH AVE NE 98053           REDMOND -121.9511 47.63584
##    building_grade square_feet_total_living bedrooms bath_full_count
## 1              12                     8750        5               2
## 2               6                     2410        3               1
## 3              11                     3690        4               2
## 4               9                     1230        1               1
## 5              12                     5830        4               4
## 6               5                     1040        3               1
## 7               9                     5270        4               3
## 8               9                     5270        4               3
## 9              11                     5150        4               3
## 10             11                     5150        4               3
## 11             10                     3540        4               2
## 12              5                     1060        2               1
## 13              7                     2110        5               1
## 14              7                     1500        3               1
## 15              7                     1570        2               1
## 16              9                     2800        3               2
## 17             11                     5790        3               2
## 18              9                     4280        4               3
## 19             10                     4920        5               3
## 20              7                     2700        3               1
## 21              6                     1380        3               1
## 22              8                     4740        6               5
## 23              8                     4740        6               5
## 24              7                     2550        2               2
## 25              7                     2550        2               2
##    bath_half_count bath_3qtr_count year_built year_renovated current_zoning
## 1                2               3       1996              0           RA5
## 2                0               1       1935              0         A10SO
## 3                1               2       1999              0         RA10P
## 4                0               0       1999              0         RA10P
## 5                0               1       1969              0          RA5P
## 6                0               0       1900              0          RA5P
## 7                0               1       2015              0          RA5P
## 8                0               1       2015              0          RA5P
## 9                0               1       1997              0          RA10
## 10               0               1       1997              0          RA10
## 11               0               1       1999              0          RA10
## 12               0               0       1934           1991           RA5
## 13               0               1       1934              0           RA5
## 14               0               1       1943              0           RA5
## 15               0               0       1951              0          RA10
## 16               1               0       1987              0           RA5
## 17               1               1       1999              0           A10
## 18               1               1       1956           1970           RA5
## 19               3               2       1989              0           RA5
## 20               0               1       2003              0           RA5
## 21               0               1       2003              0           RA5
```

```
## 22              0               1       2007              0            RA5
## 23              0               1       2007              0            RA5
## 24              0               0       2013              0            RA5
## 25              0               0       2013              0            RA5
##    sq_ft_lot prop_type present_use
## 1    1631322         R           2
## 2    1327090         R           2
## 3    1166246         R         300
## 4    1166246         R         300
## 5    1127205         R           2
## 6    1127205         R           2
## 7    1008414         R           2
## 8    1008414         R           2
## 9     963702         R           2
## 10    963702         R           2
## 11    871202         R           2
## 12    845499         R           2
## 13    845499         R           2
## 14    788436         R           2
## 15    703929         R           2
## 16    669952         R           2
## 17    657816         R           2
## 18    626392         R           2
## 19    604612         R           2
## 20    574992         R           2
## 21    574992         R           2
## 22    544199         R           2
## 23    544199         R           2
## 24    532739         R           2
## 25    532739         R           2
```

```
# Grabbing some information by using the mean function
summarize(housing, avg = mean(Sale.Price))
```

```
##        avg
## 1 660737.7
```

```
summarize(housing, avg = mean(square_feet_total_living))
```

```
##        avg
## 1 2539.506
```

```
summarize(housing, avg = mean(sq_ft_lot))
```

```
##        avg
## 1 22228.57
```

```
# Grouping and checking the data
g_sale_price <- group_by(housing, Sale.Price,
                         square_feet_total_living, sq_ft_lot,
                         .add = TRUE, .drop = TRUE)
head(g_sale_price, 25)
```

```
## # A tibble: 25 x 24
## # Groups:   Sale.Price, square_feet_total_living, sq_ft_lot [25]
##    Sale.Date Sale.Price sale_reason sale_instrument sale_warning sitetype
##    <chr>          <int>       <int>           <int> <chr>        <chr>
##  1 1/3/2006      698000           1               3 ""           R1
##  2 1/3/2006      649990           1               3 ""           R1
##  3 1/3/2006      572500           1               3 ""           R1
##  4 1/3/2006      420000           1               3 ""           R1
##  5 1/3/2006      369900           1               3 "15"         R1
##  6 1/3/2006      184667           1              15 "18 51"      R1
##  7 1/4/2006     1050000           1               3 ""           R1
##  8 1/4/2006      875000           1               3 ""           R1
##  9 1/4/2006      660000           1               3 ""           R1
## 10 1/4/2006      650000           1               3 ""           R1
## # i 15 more rows
## # i 18 more variables: addr_full <chr>, zip5 <int>, ctyname <chr>,
## #   postalctyn <chr>, lon <dbl>, lat <dbl>, building_grade <int>,
## #   square_feet_total_living <int>, bedrooms <int>, bath_full_count <int>,
## #   bath_half_count <int>, bath_3qtr_count <int>, year_built <int>,
## #   year_renovated <int>, current_zoning <chr>, sq_ft_lot <int>,
## #   prop_type <chr>, present_use <int>
```

```
# Cutting the data down to fields of interest
g_sale_price <- mutate(g_sale_price, .keep = c("used"))

# Split the data to keep the prices that are higher than average
higher_than_avg <- keep(housing$Sale.Price, housing$Sale.Price > mean(housing$Sale.Price))
head(higher_than_avg, 25)
```

```
##  [1]  698000 1050000  875000  803000  765000  765000 1392000  717390  949950
## [10]  905000  750073  690749 1445000  729000  754500 1053649  870000  844148
## [19]  765719  689000  849990  798000 1900000 1080135 1075000
```

```
# Split the data to remove prices higher than average
lower_than_avg <- discard(housing$Sale.Price, housing$Sale.Price > mean(housing$Sale.Price))
head(lower_than_avg, 25)
```

```
##  [1] 649990 572500 420000 369900 184667 660000 650000 599950 526787 470000
## [11] 165000 507950 589950 501000 372500 513262 482000 372500 265000 552000
## [21] 470000 523935 399900 335105 572950
```

```
# rbind
highest_priced <- arrange(housing, desc(Sale.Price),
                          .by_group = TRUE, .locale = "en")
lowest_priced <- arrange(housing, desc(Sale.Price),
                         .by_group = TRUE, .locale = "en")
top_and_bottom <- rbind(highest_priced %>% slice(1:5),
                        lowest_priced %>% slice((nrow(lowest_priced)-4):nrow(lowest_priced)))
top_and_bottom
```

```
##     Sale.Date Sale.Price sale_reason sale_instrument sale_warning sitetype
## 1    3/2/2010    4400000           1               3        35 45       R1
```

```
## 2    3/2/2010    4400000           1               3        35 45       R1
## 3  11/17/2011    4380542           1              22        11 45       R1
## 4  11/17/2011    4380542           1              22        11 45       R1
## 5  11/17/2011    4380542           1              22        11 45       R1
## 6  12/22/2009        998           1              26           24       R1
## 7  12/29/2009        873           1              26           24       R1
## 8   1/28/2010        873           1              26        24 32       R1
## 9    7/6/2010        698           1              26           24       R1
## 10   7/6/2010        698           1              26           24       R1
##                    addr_full  zip5 ctyname postalctyn       lon      lat
## 1          12025 154TH PL NE 98052            REDMOND -122.1350 47.70801
## 2          12053 154TH PL NE 98052            REDMOND -122.1345 47.70950
## 3          17137 NE 120TH ST 98052 REDMOND    REDMOND -122.1113 47.70674
## 4          11818 171ST PL NE 98052 REDMOND    REDMOND -122.1119 47.70639
## 5         17011 NE 118TH WAY 98052 REDMOND    REDMOND -122.1134 47.70580
## 6          8226 196TH AVE NE 98053            REDMOND -122.0777 47.67746
## 7          8332 196TH AVE NE 98053            REDMOND -122.0782 47.67802
## 8          8340 196TH AVE NE 98053            REDMOND -122.0784 47.67845
## 9  19805 NE NOVELTY HILL RD 98053            REDMOND -122.0741 47.68643
## 10 19805 NE NOVELTY HILL RD 98053            REDMOND -122.0741 47.68643
##    building_grade square_feet_total_living bedrooms bath_full_count
## 1              11                     5790        3               2
## 2               6                     2410        3               1
## 3               8                     3290        4               2
## 4               8                     2450        4               2
## 5               8                     2750        4               2
## 6               7                     1850        3               1
## 7               7                     2160        2               1
## 8               7                     3430        3               1
## 9              12                     5830        4               4
## 10              5                     1040        3               1
##    bath_half_count bath_3qtr_count year_built year_renovated current_zoning
## 1                1               1       1999              0           A10
## 2                0               1       1935              0         A10SO
## 3                1               0       2012              0            R4
## 4                1               0       2010              0            R4
## 5                1               0       2012              0            R4
## 6                1               0       1960           1989           RA5
## 7                0               1       1968              0           RA5
## 8                1               0       1955              0           RA5
## 9                0               1       1969              0          RA5P
## 10               0               0       1900              0          RA5P
##    sq_ft_lot prop_type present_use
## 1     657816         R           2
## 2    1327090         R           2
## 3       6712         R           2
## 4       4749         R           2
## 5       5816         R           2
## 6     209589         R           2
## 7     102505         R           2
## 8     105660         R           2
## 9    1127205         R           2
## 10   1127205         R           2
```

```r
# cbind
sale_price <- housing$Sale.Price
sq_footage_interior <- housing$square_feet_total_living
head(cbind(sale_price, sq_footage_interior), 25)
```

```
##       sale_price sq_footage_interior
##  [1,]     698000                2810
##  [2,]     649990                2880
##  [3,]     572500                2770
##  [4,]     420000                1620
##  [5,]     369900                1440
##  [6,]     184667                4160
##  [7,]    1050000                3960
##  [8,]     875000                3720
##  [9,]     660000                4160
## [10,]     650000                2760
## [11,]     599950                2180
## [12,]     526787                2480
## [13,]     470000                2230
## [14,]     165000                1850
## [15,]     803000                3180
## [16,]     507950                2480
## [17,]     765000                4000
## [18,]     589950                2570
## [19,]     501000                2620
## [20,]     372500                1620
## [21,]     513262                1930
## [22,]     482000                2360
## [23,]     765000                3520
## [24,]     372500                1640
## [25,]     265000                4920
```

```r
# String split and concatenate
string_5.2 <- "This1is1week15's1assignment"
string_5.2.1 <- str_split_i(string_5.2, "1", 1)
string_5.2.2 <- str_split_i(string_5.2, "1", 2)
string_5.2.3 <- str_split_i(string_5.2, "1", 3)
string_5.2.4 <- str_split_i(string_5.2, "1", 4)
string_5.2.5 <- str_split_i(string_5.2, "1", 5)
string_5.2 <- paste(string_5.2.1, string_5.2.2,
                    string_5.2.3, string_5.2.4,
                    string_5.2.5, collapse = " ")
string_5.2
```

```
## [1] "This is week 5's assignment"
```