

CS5801 Coursework Template Proforma

student-id

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0. Instructions

```
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 4.2.3
```

```
library(psych)
```

```
## Warning: package 'psych' was built under R version 4.2.2
```

```
##
```

```
## Attaching package: 'psych'
```

```
## The following objects are masked from 'package:ggplot2':
```

```
##
```

```
##      %+%, alpha
```

```
library(ggpubr)
```

```
## Warning: package 'ggpubr' was built under R version 4.2.2
```

```
library(mgcv)
```

```
## Warning: package 'mgcv' was built under R version 4.2.2
```

```
## Loading required package: nlme
```

```
## This is mgcv 1.8-41. For overview type 'help("mgcv-package")'.
```

```
library(tree)
```

```
## Warning: package 'tree' was built under R version 4.2.3
```

1. Organise and clean the data

1.1 Subset the data into the specific dataset allocated

```

# Assign your student id into the variable SID, for example:
SID <- 2203898 # This is an example, replace 2101234 with your actual ID
SIDoffset <- (SID %% 100) + 1 # Your SID mod 100 + 1

load("house-analysis.RDa")
# Now subset the housing data set
# Pick every 100th observation starting from your offset
# Put into your data frame named mydf (you can rename it)
mydf <- house.analysis[seq(from=SIDoffset,to=nrow(house.analysis),by=100),]

```

#Eyeballing the data - Extracting the data to Excel CSV file

```
write.csv(mydf,"Dataset.csv")
```

1.2 Data quality analysis

#Data Quality Checks #Validity of data

- 1)Mandatory: It is mandatory for certain columns like price,mq,floor,n_rooms not to be empty
- 2)Missing Data: Checking for implausible , incomplete data values like number of rooms = -1 The number of rooms or bathrooms cannot be -1. It is implausible.
- 3)Spelling/Numerical Errors : Data observation must not have incorrect notation eg Autonamous instead of Autonomous
- 4)Data-type: each value has a specific relevant data type eg heating = character string ie autonomous and other whereas price,mq,n_rooms are numeric data type
- 5)Range: Minimum and maximum values for numerical variables like price, n_rooms, n_bathrooms, floor, sq
- 6)Uniqueness: unique variables should be present in the dataset. Checking for duplicated values.
- 7)Set-membership constraint: Values must come from a set of discrete values/codes
- 8) Referential integrity: Constraints based upon multiple variables, e.g., number of floors with respect to total square meter of property eg 14 rooms cannot have 95 sq metre property.
- 9) Accuracy: accuracy of data with respect to standard values e.g. 1 floor and 2 room flat cannot be 0 sq meter in area.
- 10)Completeness: comprehensiveness of the data. Entire data set must deliver useful information and must be complete in itself.
- 11)Consistency: Ensuring variables measured in the same way from different locations etc eg Price in dollars, area in square meters. Same units of measurement ie universal acceptance.
- 12)Traceability: Data must be traceable(sourced).
- 13)Timeliness: Data updates with time eg Price of property changes over time.It depends on inflation and recession.
- 14)Variance almost-zero-variance-features: cases when instance have the same value eg variance between id and property prices.
- 15)Outliers: these are abnormal or unusual values that is of significant importance.

1.3 Data cleaning

a) Viewing the data set mydf and column names

```
View(mydf)
names(mydf)
```

```
## [1] "id"           "price"         "mq"
## [4] "floor"        "n_rooms"       "n_bathrooms"
## [7] "has_terrace"  "has_alarm"     "heating"
## [10] "has_air_conditioning" "has_parking"  "is_furnished"
```

b) Examining the first 6 rows and last 6 rows of the data set

```
head(mydf)
```

```
##      id price  mq floor n_rooms n_bathrooms has_terrace has_alarm heating
## 174   174 80000  89     1         3           1           0         0 autonomous
## 387   387 80000 130     2         5           1           1         0 autonomous
## 594   594 165000 130     1         5           2           0         0 autonomous
## 809   809 20000  45     3         2           1           0         0 autonomous
## 1087 1087 170000 140     1         4           2           0         0 autonomous
## 1260 1260  59000  60     1         2           1           1         0 autonomous
##      has_air_conditioning has_parking is_furnished
## 174                      0           0           0
## 387                      0           0           0
## 594                      0           0           0
## 809                      0           0           0
## 1087                     1           0           0
## 1260                     0           0           0
```

```
tail(mydf)
```

```
##      id price  mq floor n_rooms n_bathrooms has_terrace has_alarm
## 222194 222194 380000 250     2         5           3           1           1
## 222370 222370  80000  95     1         3           1           1           0
## 222622 222622 180000 120     2         5           2           0           0
## 222786 222786 295000 181     2         5           2           1           0
## 222975 222975 220000  90     2         3           1           0           0
## 223193 223193 180000 215     1         4           2           0           0
##      heating has_air_conditioning has_parking is_furnished
## 222194 autonomous                1           0           1
## 222370 autonomous                1           0           1
## 222622 autonomous                0           0           0
## 222786 autonomous                1           0           1
## 222975 autonomous                1           0           0
## 223193 autonomous                0           0           0
```

c) Looking at the structure of the data frame mydf

Inference : - Variables has_terrace, has_alarm, has_air_conditioning, has_parking, is_furnished have data type as “Integers”. This needs to be converted to data type “Factor” - Heating variable needs to be converted from “character” data type to “factor” data type factor conversion using as.factor

```
str(mydf)

## 'data.frame':    903 obs. of  12 variables:
##  $ id                : int  174 387 594 809 1087 1260 1556 1871 2143 2388 ...
##  $ price              : num  80000 80000 165000 20000 170000 59000 85000 130000 149000 55000 ...
##  $ mq                 : num  89 130 130 45 140 60 100 125 200 60 ...
##  $ floor              : num  1 2 1 3 1 1 2 1 1 3 ...
##  $ n_rooms             : num  3 5 5 2 4 2 2 4 5 3 ...
##  $ n_bathrooms         : num  1 1 2 1 2 1 1 2 2 1 ...
##  $ has_terrace         : int  0 1 0 0 0 1 0 0 0 0 ...
##  $ has_alarm           : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ heating             : chr  "autonomous" "autonomous" "autonomous" "autonomous" ...
##  $ has_air_conditioning: int  0 0 0 0 1 0 1 0 0 0 ...
##  $ has_parking         : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ is_furnished        : int  0 0 0 0 0 0 1 0 0 0 ...
```

Converting given columns to factors

```
mydf$has_terrace<-as.factor(mydf$has_terrace)
mydf$has_alarm<-as.factor(mydf$has_alarm)
mydf$heating<-as.factor(mydf$heating)
mydf$has_air_conditioning<-as.factor(mydf$has_air_conditioning)
mydf$has_parking<- as.factor(mydf$has_parking)
mydf$is_furnished<-as.factor(mydf$is_furnished)
class(mydf$has_alarm)
```

```
## [1] "factor"
```

d) Checking of variables by using table function

```
table(mydf$floor)
```

```
##
##  1  2  3  4  5  6  7  8 14 15
## 441 296 98 32 18 7 7 2 1 1
```

```
table(mydf$n_rooms)
```

```
##
## -1  2  3  4  5
##  1 155 319 267 161
```

```
table(mydf$n_bathrooms)
```

```
##  
##    1    2    3  
## 516 351   36
```

```
table(mydf$has_terrace)
```

```
##  
##    0    1  
## 780 123
```

```
table(mydf$has_alarm)
```

```
##  
##    0    1  
## 892   11
```

```
table(mydf$heating)
```

```
##  
## autonomous autonomous      other  
##           1           788       114
```

```
table(mydf$has_air_conditioning)
```

```
##  
##    0    1  
## 612 291
```

```
table(mydf$has_parking)
```

```
##  
##    0    1  
## 888   15
```

```
table(mydf$is_furnished)
```

```
##  
##    0    1  
## 818   85
```

d.1) Running `table(mydf$floor)` gives

14th and 15th floor which probably is an outlier. 1 2 3 4 5 6 7 8 14 15 441 296 98 32 18 7 7 2 1 1 Since the frequency of both 14th and 15th floor is 1. We can ignore the outlier.

d.2) Running table(mydf\$n_rooms) gives -1 value :

-1 2 3 4 5 1 155 319 267 161 This is manual typing error and needs to be changed to 1

```
# Display row from the data frame with incorrect value for n_rooms
subset(mydf, n_rooms == -1)
```

```
##           id  price mq floor n_rooms n_bathrooms has_terrace has_alarm
## 147437 147437 209000 50     3      -1           1           0           0
##           heating has_air_conditioning has_parking is_furnished
## 147437 autonomous                     0           0           1
```

```
#changing -1 to 1
mydf$n_rooms[mydf$n_rooms== -1 ] <- 1
table(mydf$n_rooms)
```

```
##
##  1  2  3  4  5
##  1 155 319 267 161
```

d.3) Running table(mydf\$heating) gives three outputs :

autonomous autonomous other It is a spelling mistake for autonomous hence we correct the same

```
# Display row from the data frame with incorrect value for Autonomous
subset(mydf, heating == "autonomous")
```

```
##           id  price  mq floor n_rooms n_bathrooms has_terrace has_alarm
## 124136 124136 330000 133     1         3           1           0           0
##           heating has_air_conditioning has_parking is_furnished
## 124136 autonomous                     0           0           0
```

```
#changing the name of heating
mydf$heating[mydf$heating=="autonomous"] <- "autonomous"
table(mydf$heating)
```

```
##
## autonomous autonomous      other
##           0           789       114
```

e) Checking for duplicate values

```
duplicated(mydf)
```

[illegible]

```
## [649] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [661] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [673] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [685] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [697] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [709] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [721] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [733] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [745] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [757] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [769] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [781] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [793] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [805] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [817] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [829] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [841] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [853] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [865] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [877] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [889] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE
## [901] FALSE FALSE FALSE
```

```
table(duplicated(mydf))
```

```
##
## FALSE
## 903
```

```
# Duplicated values are absent.
```

f) Checking for missing values

```
colSums(is.na(mydf))
```

```
##          id          price          mq
##          0             0             0
##      floor      n_rooms  n_bathrooms
##          0             0             0
##   has_terrace  has_alarm    heating
##          0             0             0
## has_air_conditioning  has_parking  is_furnished
##          0             0             0
```

```
# Missing values are absent.
```


g) Checking for numerical summaries

```
summary(mydf)
```

```
##           id           price           mq           floor
## Min.      : 174    Min.      : 1000    Min.      : 0.0    Min.      : 1.000
## 1st Qu.: 54028    1st Qu.: 73000    1st Qu.: 73.0    1st Qu.: 1.000
## Median :113254    Median :119000    Median :100.0    Median : 2.000
## Mean      :111122    Mean      :143154    Mean      :115.3    Mean      : 1.862
## 3rd Qu.:167329    3rd Qu.:189000    3rd Qu.:130.0    3rd Qu.: 2.000
## Max.      :223193    Max.      :495000    Max.      :850.0    Max.      :15.000
##      n_rooms      n_bathrooms  has_terrace has_alarm      heating
## Min.      :1.000    Min.      :1.000    0:780      0:892    autonomous: 0
## 1st Qu.:3.000    1st Qu.:1.000    1:123      1: 11    autonomous:789
## Median :3.000    Median :1.000                                other      :114
## Mean      :3.478    Mean      :1.468
## 3rd Qu.:4.000    3rd Qu.:2.000
## Max.      :5.000    Max.      :3.000
## has_air_conditioning has_parking is_furnished
## 0:612                  0:888      0:818
## 1:291                  1: 15      1: 85
##
##
##
##
```

Summary Insights : Square meter ie mq variable cannot be 0.

Hence we replace 0 with mean value for mq

```
# Display row from the data frame with incorrect value for Square meter
subset(mydf, mq == 0 )
```

```
##           id price mq floor n_rooms n_bathrooms has_terrace has_alarm
## 197345 197345 199000 0     1         2             1             0         0
##           heating has_air_conditioning has_parking is_furnished
## 197345 autonomous                    0             0             0
```

```
# Replacing 0 with median value of mq
median(mydf$mq)
```

```
## [1] 100
```

```
mydf$mq[mydf$mq== 0] <- 100
```

```
summary(mydf)
```

```
##           id           price           mq           floor
```

```

## Min.      : 174      Min.      : 1000      Min.      : 20.0      Min.      : 1.000
## 1st Qu.: 54028      1st Qu.: 73000      1st Qu.: 73.5      1st Qu.: 1.000
## Median :113254      Median :119000      Median :100.0      Median : 2.000
## Mean    :111122      Mean    :143154      Mean    :115.4      Mean    : 1.862
## 3rd Qu.:167329      3rd Qu.:189000      3rd Qu.:130.0      3rd Qu.: 2.000
## Max.    :223193      Max.    :495000      Max.    :850.0      Max.    :15.000
##      n_rooms      n_bathrooms      has_terrace has_alarm      heating
## Min.      :1.000      Min.      :1.000      0:780          0:892      autonomous: 0
## 1st Qu.:3.000      1st Qu.:1.000      1:123          1: 11      autonomous:789
## Median :3.000      Median :1.000                                other       :114
## Mean     :3.478      Mean     :1.468
## 3rd Qu.:4.000      3rd Qu.:2.000
## Max.     :5.000      Max.     :3.000
## has_air_conditioning has_parking is_furnished
## 0:612                0:888      0:818
## 1:291                1: 15      1: 85
##
##
##
##

```

2. Exploratory Data Analysis (EDA)

2.1 EDA plan

The Exploratory Data Analysis steps are :

“Price” column is our dependent or response variable. Mostly all graphical insights will be centered towards “Price”. a) Structure of dataframe : - Dimensions of data frame - Variable names - Data type of each variable - Comprehensive understanding of the data frame

b) Numerical Summary of data :

- Checking Numerical parameters of Descriptive Statistics ie Minimum value, 1st Quantile, Median, Mean, 3rd Quantile, Maximum. This helps to understand abnormal values or any outliers.

c) Graphical Summaries :

- Descriptive statistics using visualizations.
- Histogram for frequency distribution of numerical variables and checking if data is normally distributed.
- Scatter plots to check correlation between 2 numerical variables. Are they positively, negatively or not correlated.
- Scatter plots : Slope/ relation => linear, quadratic , exponential
- Box plots for categorical and factorial variables with Price.

d) Checking for Normality :

- Normality test : shapiro test , histograms
- Checking if the data falls under normal distribution or is positively or negatively skewed.

- Using psych library for checking skewness
- Finding possible reasons for skewness eg outliers

e) Numerically checking for Correlation between variables using cor.test

f) Understanding the research question and formulating appropriate hypothesis.

2.2 EDA and summary of results

Exploratory Data Analysis

a) Understanding Data frame

Insights : - Total 903 observations ie rows and 12 columns. - Data type of price is numerical and rest other variables are numerical and converted to factors. - Factor levels : 0 = absent 1 = present

```
str(mydf)
```

```
## 'data.frame':    903 obs. of  12 variables:
## $ id             : int  174 387 594 809 1087 1260 1556 1871 2143 2388 ...
## $ price          : num  80000 80000 165000 20000 170000 59000 85000 130000 149000 55000 ...
## $ mq            : num   89 130 130 45 140 60 100 125 200 60 ...
## $ floor         : num   1 2 1 3 1 1 2 1 1 3 ...
## $ n_rooms       : num   3 5 5 2 4 2 2 4 5 3 ...
## $ n_bathrooms   : num   1 1 2 1 2 1 1 2 2 1 ...
## $ has_terrace   : Factor w/ 2 levels "0","1": 1 2 1 1 1 2 1 1 1 1 ...
## $ has_alarm     : Factor w/ 2 levels "0","1": 1 1 1 1 1 1 1 1 1 1 ...
## $ heating       : Factor w/ 3 levels "autonomous","autonomous",...: 2 2 2 2 2 2 2 2 2 2 ...
## $ has_air_conditioning: Factor w/ 2 levels "0","1": 1 1 1 1 2 1 2 1 1 1 ...
## $ has_parking   : Factor w/ 2 levels "0","1": 1 1 1 1 1 1 1 1 1 1 ...
## $ is_furnished  : Factor w/ 2 levels "0","1": 1 1 1 1 1 1 2 1 1 1 ...
```

b) Numerical summary of Descriptive statistics

Insights : - price variable : Mean > Median Value implies positively skewed data, might be indicative of outliers. - mq variable : Mean > Median implies positive skewness - Numerical Variables like floor, n_rooms, n_bathrooms are discrete values - floor : range is greater ie 14 for floor variable. This indicates outliers. - Factorial variables : have no known anomalies

```
summary(mydf)
```

```
##           id           price           mq           floor
## Min.      : 174    Min.      : 1000    Min.      : 20.0    Min.      : 1.000
## 1st Qu.: 54028    1st Qu.: 73000    1st Qu.: 73.5    1st Qu.: 1.000
## Median :113254    Median :119000    Median :100.0    Median : 2.000
## Mean     :111122    Mean     :143154    Mean     :115.4    Mean     : 1.862
## 3rd Qu.:167329    3rd Qu.:189000    3rd Qu.:130.0    3rd Qu.: 2.000
## Max.     :223193    Max.     :495000    Max.     :850.0    Max.     :15.000
##      n_rooms    n_bathrooms    has_terrace    has_alarm      heating
## Min.      :1.000    Min.      :1.000    0:780        0:892    autonomous: 0
```

```
## 1st Qu.:3.000 1st Qu.:1.000 1:123 1: 11 autonomous:789
## Median :3.000 Median :1.000 other :114
## Mean :3.478 Mean :1.468
## 3rd Qu.:4.000 3rd Qu.:2.000
## Max. :5.000 Max. :3.000
## has_air_conditioning has_parking is_furnished
## 0:612 0:888 0:818
## 1:291 1: 15 1: 85
##
##
##
##
```

Using psych package

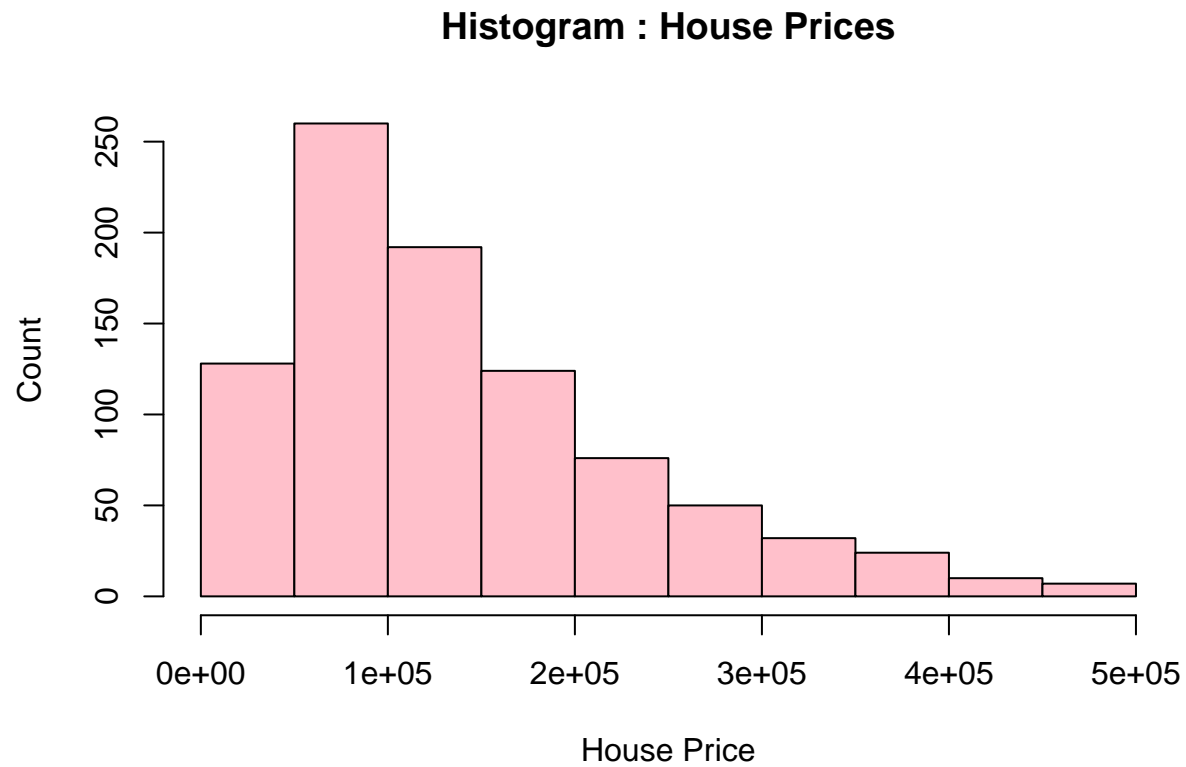
```
library(psych)
describe(mydf)
```

```
##          vars  n    mean    sd median trimmed  mad
## id          1 903 111122.40 64855.81 113254 111119.23 84340.67
## price       2 903 143153.45 96559.82 119000 130456.60 80060.40
## mq         3 903   115.43   75.57   100   103.34   44.48
## floor      4 903    1.86    1.28    2    1.62    1.48
## n_rooms    5 903    3.48    0.98    3    3.47    1.48
## n_bathrooms 6 903    1.47    0.57    1    1.41    0.00
## has_terrace* 7 903    1.14    0.34    1    1.05    0.00
## has_alarm*  8 903    1.01    0.11    1    1.00    0.00
## heating*    9 903    2.13    0.33    2    2.03    0.00
## has_air_conditioning* 10 903    1.32    0.47    1    1.28    0.00
## has_parking* 11 903    1.02    0.13    1    1.00    0.00
## is_furnished* 12 903    1.09    0.29    1    1.00    0.00
##          min  max range skew kurtosis  se
## id          174 223193 223019 0.00   -1.22 2158.27
## price      1000 495000 494000 1.16    1.01 3213.31
## mq         20   850   830 4.03   26.20 2.51
## floor      1    15    14 3.52   23.24 0.04
## n_rooms    1     5     4 0.06   -0.97 0.03
## n_bathrooms 1     3     2 0.76   -0.43 0.02
## has_terrace* 1     2     1 2.12    2.49 0.01
## has_alarm*  1     2     1 8.88   76.93 0.00
## heating*    2     3     1 2.25    3.05 0.01
## has_air_conditioning* 1     2     1 0.76   -1.42 0.02
## has_parking* 1     2     1 7.55   55.09 0.00
## is_furnished* 1     2     1 2.78    5.71 0.01
```

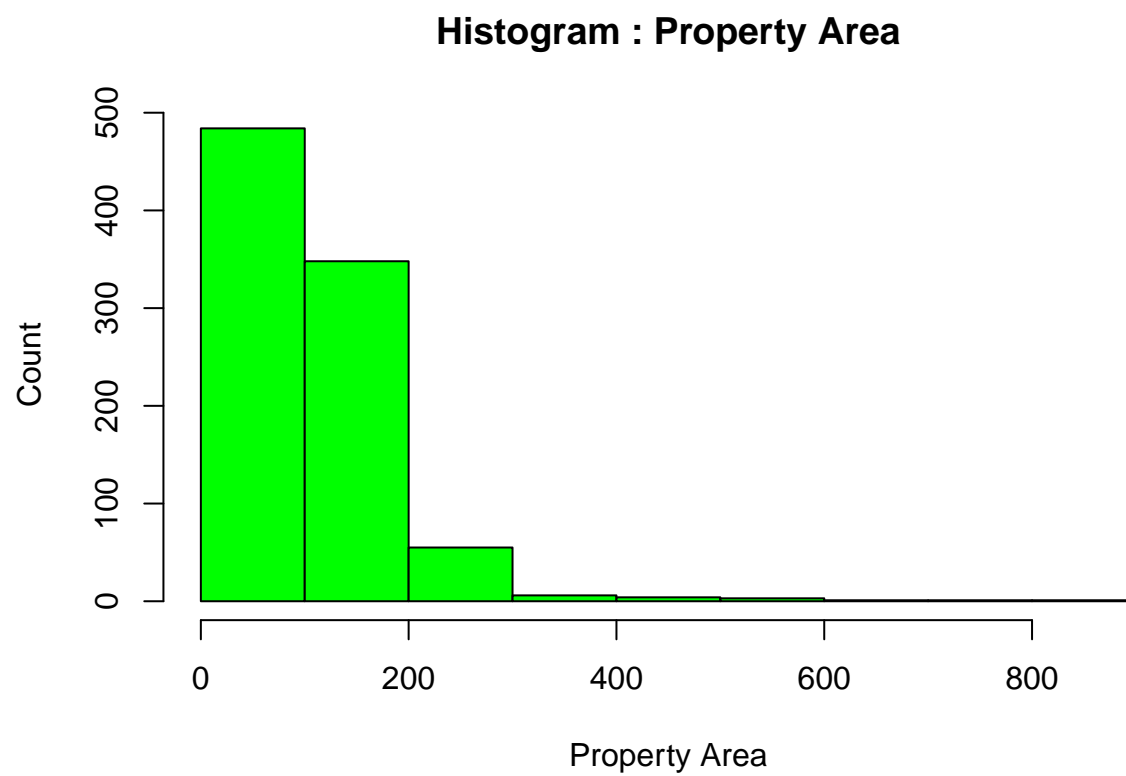
c) Histograms : Numerical variables (checking for frequency distribution, normal distribution)

Insights : - price variable : Histogram is slight positive skewed. Nearly normal distribution with maximum frequency of price between 50000-100000. - mq variable : Histogram is positively skewed. Outliers present between 400-600 square meters of property. - floor variable : edge/outlier present ie 14th floor. Maximum frequency/mode is for 1 floor. - n_rooms : Normally distributed. No abnormalities seen. Mode = 3 rooms. - n_bathrooms : Descending curve. Frequency of bathrooms = 1 > 2 > 3

```
# Histogram of price variable  
hist(mydf$price, xlab="House Price", ylab="Count", main="Histogram : House Prices", col = "pink")
```

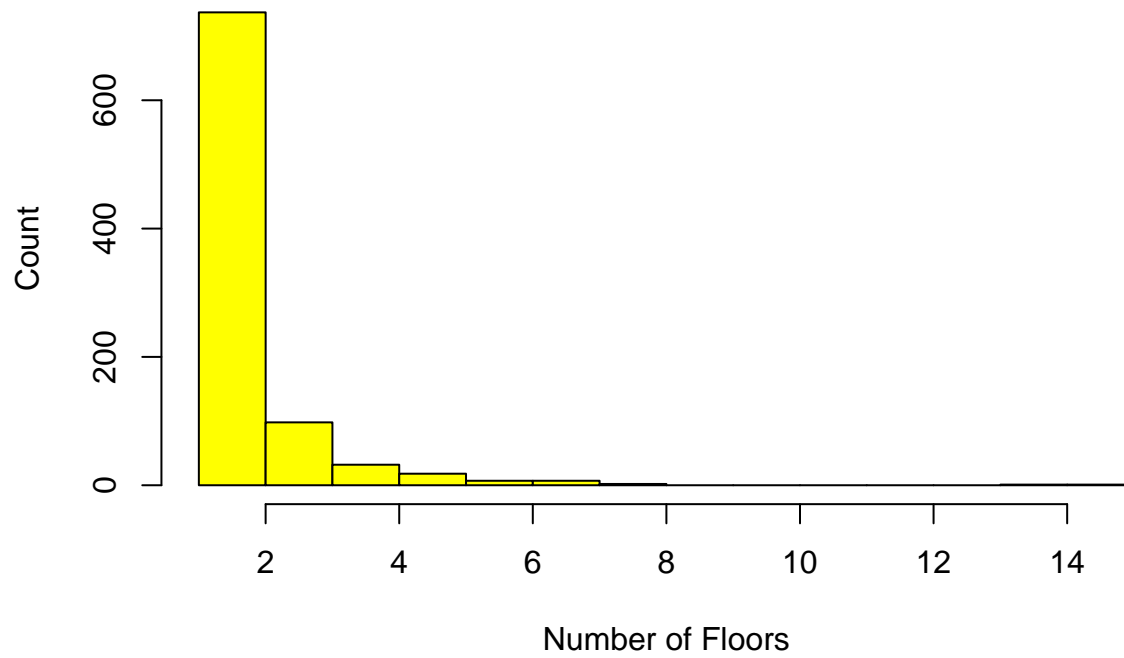


```
# Histogram of mq variable  
hist(mydf$mq, xlab="Property Area", ylab="Count", main="Histogram : Property Area", col = "green")
```



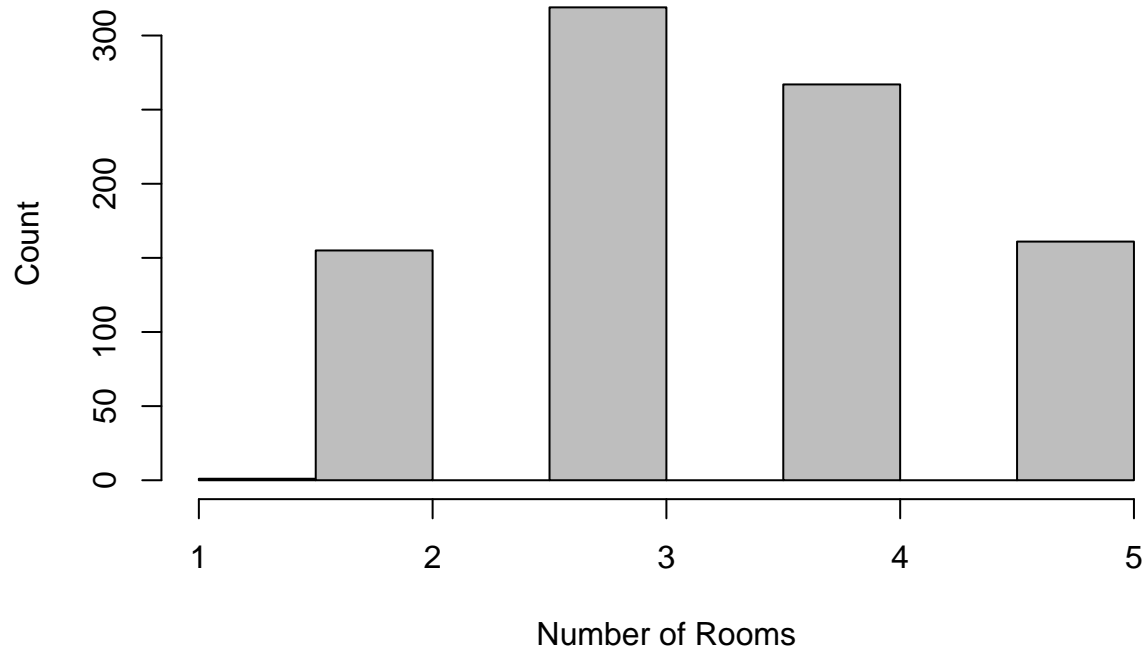
```
# Histogram of floor variable  
hist(mydf$floor, xlab="Number of Floors", ylab="Count", main="Histogram : Numbers of Floors ", col = "y")
```

Histogram : Numbers of Floors



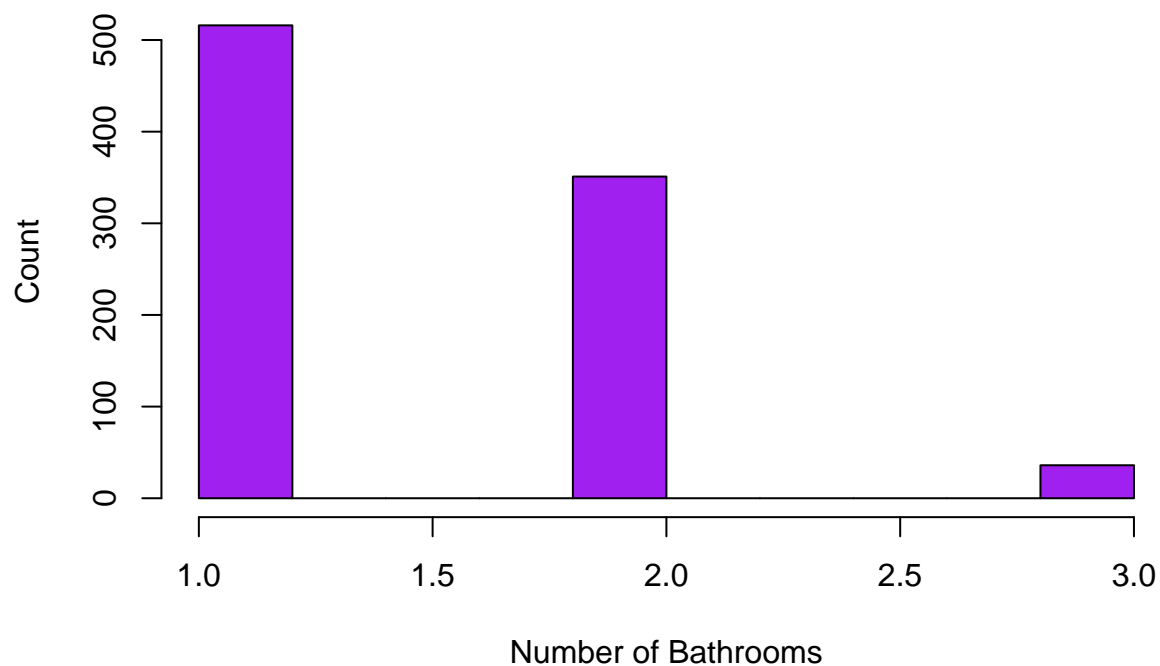
```
# Histogram of n_rooms variable  
hist(mydf$n_rooms, xlab="Number of Rooms", ylab="Count", main="Histogram : Numbers of Rooms ", col = "g")
```

Histogram : Numbers of Rooms



```
# Histogram of n_bathrooms variable  
hist(mydf$n_bathrooms, xlab="Number of Bathrooms", ylab="Count", main="Histogram : Numbers of Bathrooms")
```


Histogram : Numbers of Bathrooms



d) Scatterplots between price variable and other exploratory numerical variables.

Insights : - price and mq : Weak positive correlation - price and floor : No correlation - price and number of rooms : No correlation - price and number of bathrooms : No correlation

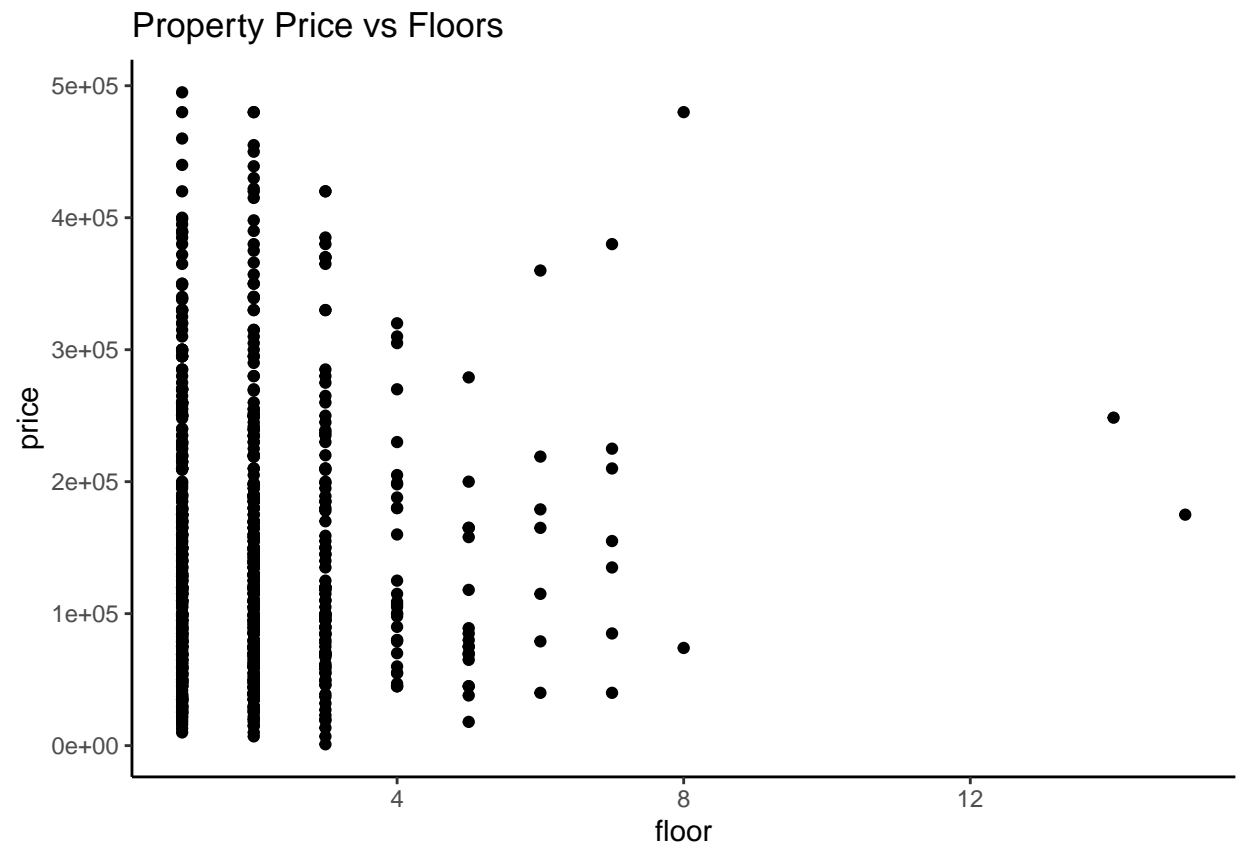
```
library(ggplot2)
```

```
# Scatterplot between variables price and mq
```

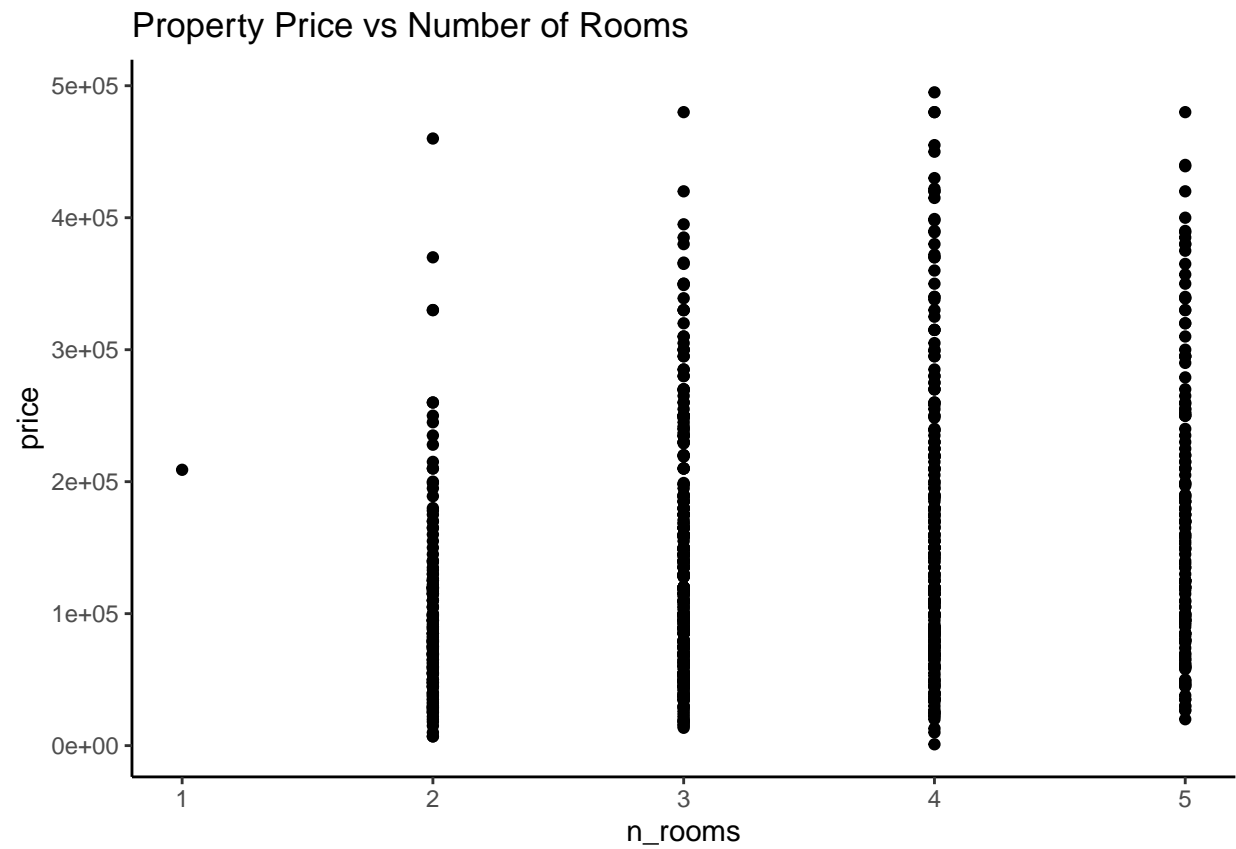
```
ggplot(data =mydf, aes(x=mq, y=price)) + geom_point() + theme_classic() + ggtitle("Property Price vs Ar
```



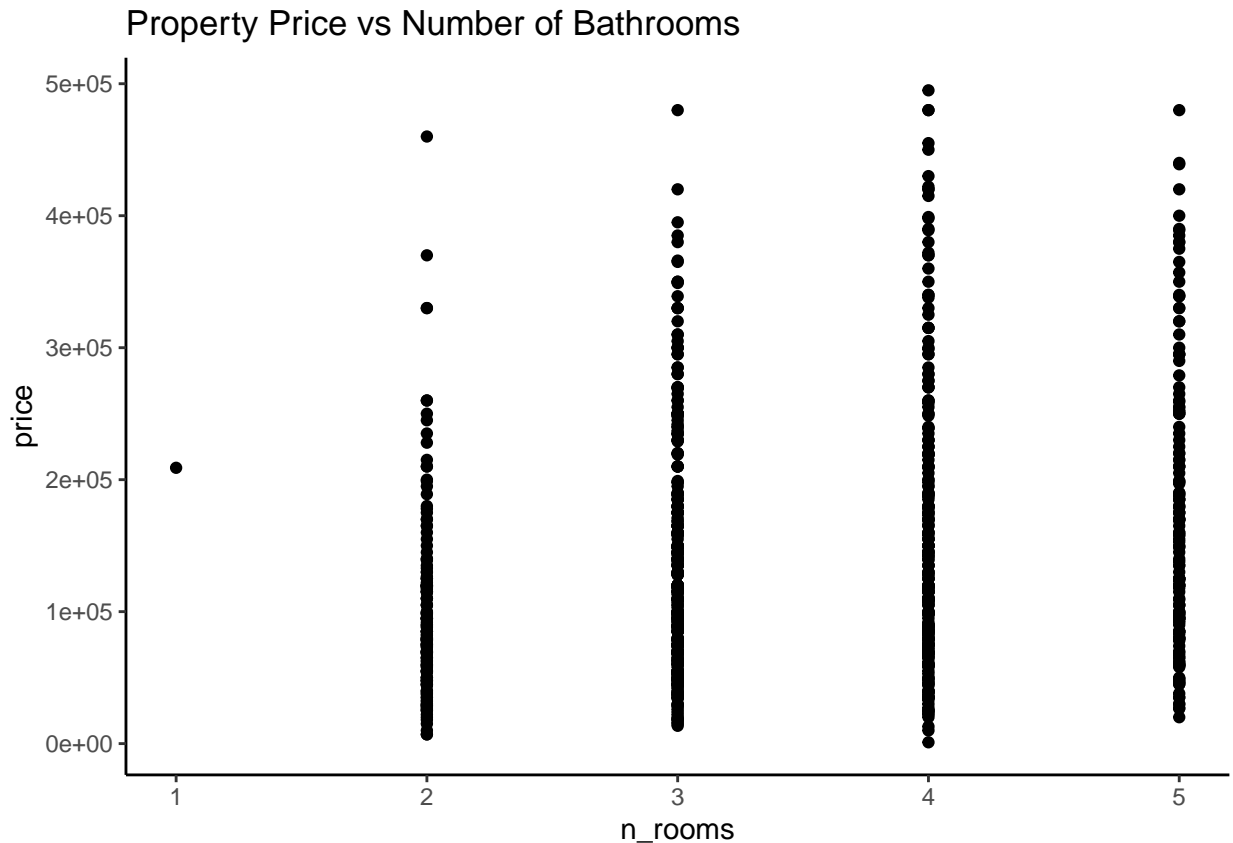
```
# Scatterplot between variables price and floor  
ggplot(data =mydf, aes(x=floor, y=price)) + geom_point() + theme_classic() + ggtitle("Property Price vs
```



```
# Scatterplot between variables price and n_rooms
ggplot(data =mydf, aes(x=n_rooms, y=price)) + geom_point() + theme_classic() + ggtitle("Property Price v
```



```
# Scatterplot between variables price and n_bathrooms  
ggplot(data =mydf, aes(x=n_rooms, y=price)) + geom_point() + theme_classic() + ggtitle("Property Price v
```



e) Correlation test : `cor.test()` between price variable and other exploratory numerical variables.

Insights : Correlation coefficient values are as followings - price and mq : 0.28 implies very weak positive correlation - price and floor : 0.03 implies no correlation - price and number of rooms : 0.22 implies very weak positive correlation - price and number of bathrooms : 0.37 implies weak positive correlation

```
# Correlation between Property Price and Area of Property
cor.test(mydf$price, mydf$mq)
```

```
##
## Pearson's product-moment correlation
##
## data: mydf$price and mydf$mq
## t = 9.0498, df = 901, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.2277085 0.3473575
## sample estimates:
## cor
## 0.2886596
```

```
# Correlation between Property Price and Floors
cor.test(mydf$price, mydf$floor)
```

```
##
## Pearson's product-moment correlation
```

```
##
## data: mydf$price and mydf$floor
## t = 0.97589, df = 901, p-value = 0.3294
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.03281461 0.09752688
## sample estimates:
##      cor
## 0.03249429
```

```
# Correlation between Property Price and Number of Rooms
cor.test(mydf$price, mydf$n_rooms)
```

```
##
## Pearson's product-moment correlation
##
## data: mydf$price and mydf$n_rooms
## t = 6.8219, df = 901, p-value = 1.647e-11
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.1586746 0.2827707
## sample estimates:
##      cor
## 0.2216198
```

```
# Correlation between Property Price and Number of Bathrooms
cor.test(mydf$price, mydf$n_bathrooms)
```

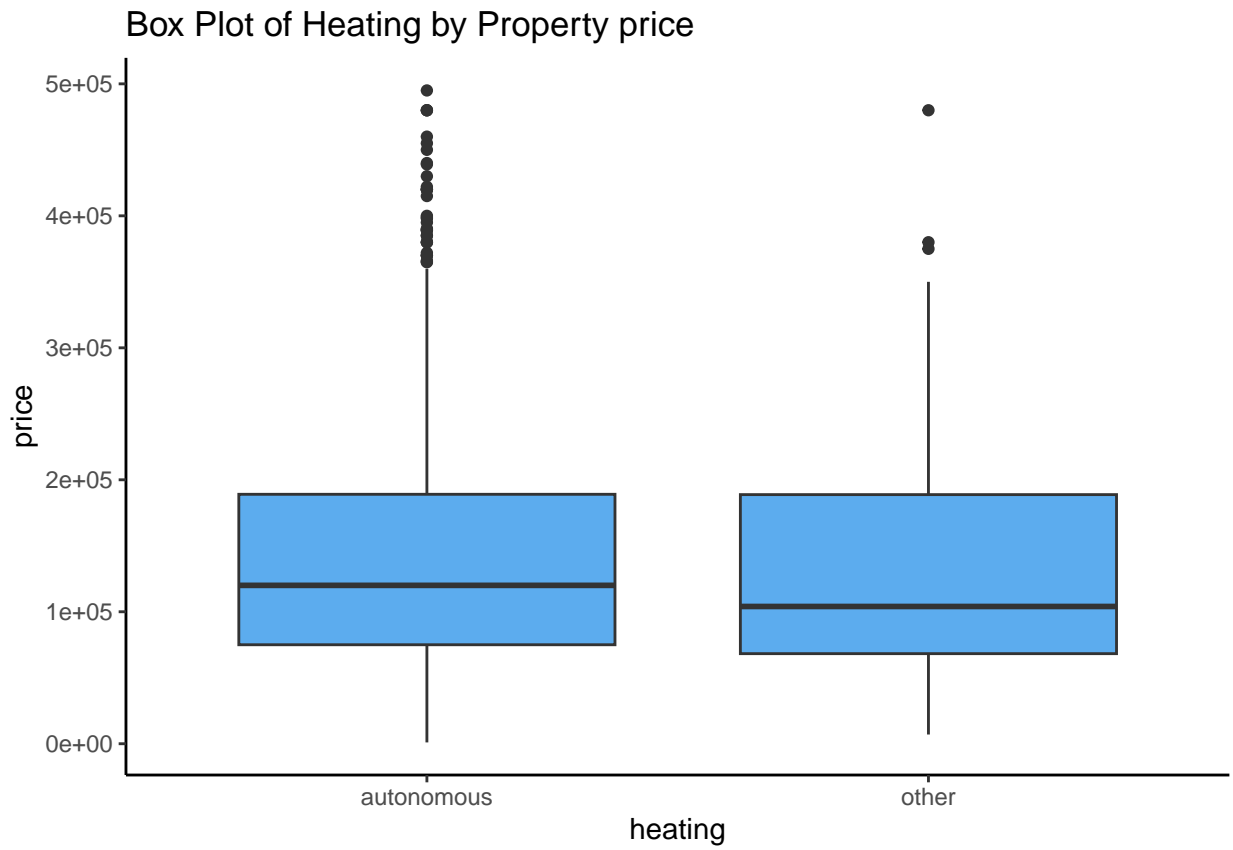
```
##
## Pearson's product-moment correlation
##
## data: mydf$price and mydf$n_bathrooms
## t = 12.255, df = 901, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.3206455 0.4325511
## sample estimates:
##      cor
## 0.377978
```

f) Boxplots between price and other categorical/factorial exploratory variables

Insights : - price and heating : Almost equal distribution of data in autonomous and other heating type. Autonomous heating has multiple outliers. Median value is approximately same for both. - price and has_alarm : House with alarm system have greater price. Greater spread between median and maximum range indicates positive skewness in alarm houses. Houses without alarm system have multiple outliers. - price and has_terrace : Median value is approximately same. Non-terraced houses have multiple outliers. - price and has_airconditioning : Median value is approximately same. Non-AC houses have multiple outliers. AC houses have slight positive skew. - price and has_parking : Price of houses with parking < Price of houses without parking house box plot - positive skew Houses without parking - multiple outliers - price and is_furnished : Equal variance in both furnished and not furnished houses. Outliers present in not furnished house. Price range for furnished house < price range for not furnished house

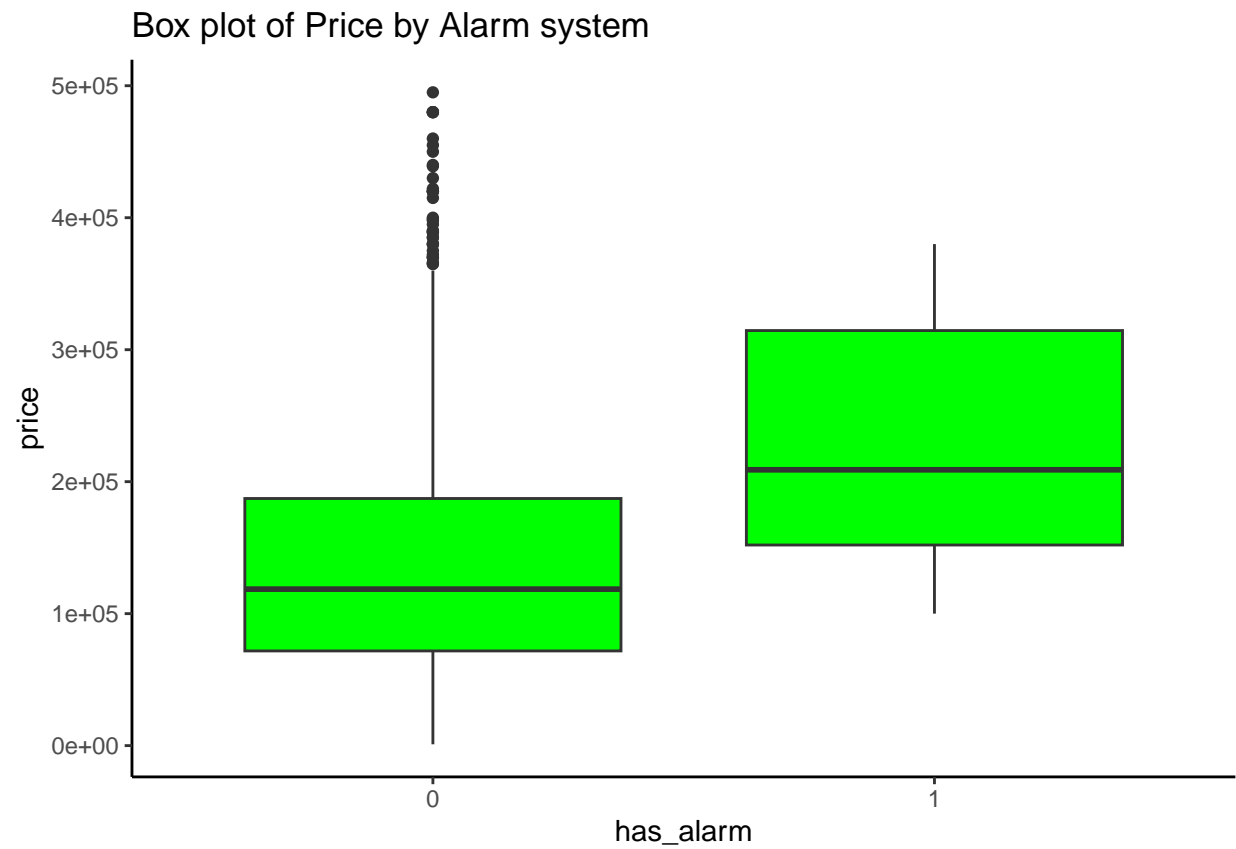
```
# Boxplot between price and heating
```

```
ggplot(mydf, aes(x=heating, y=price)) + geom_boxplot(fill="steelblue2") + theme_classic() + labs(title=
```

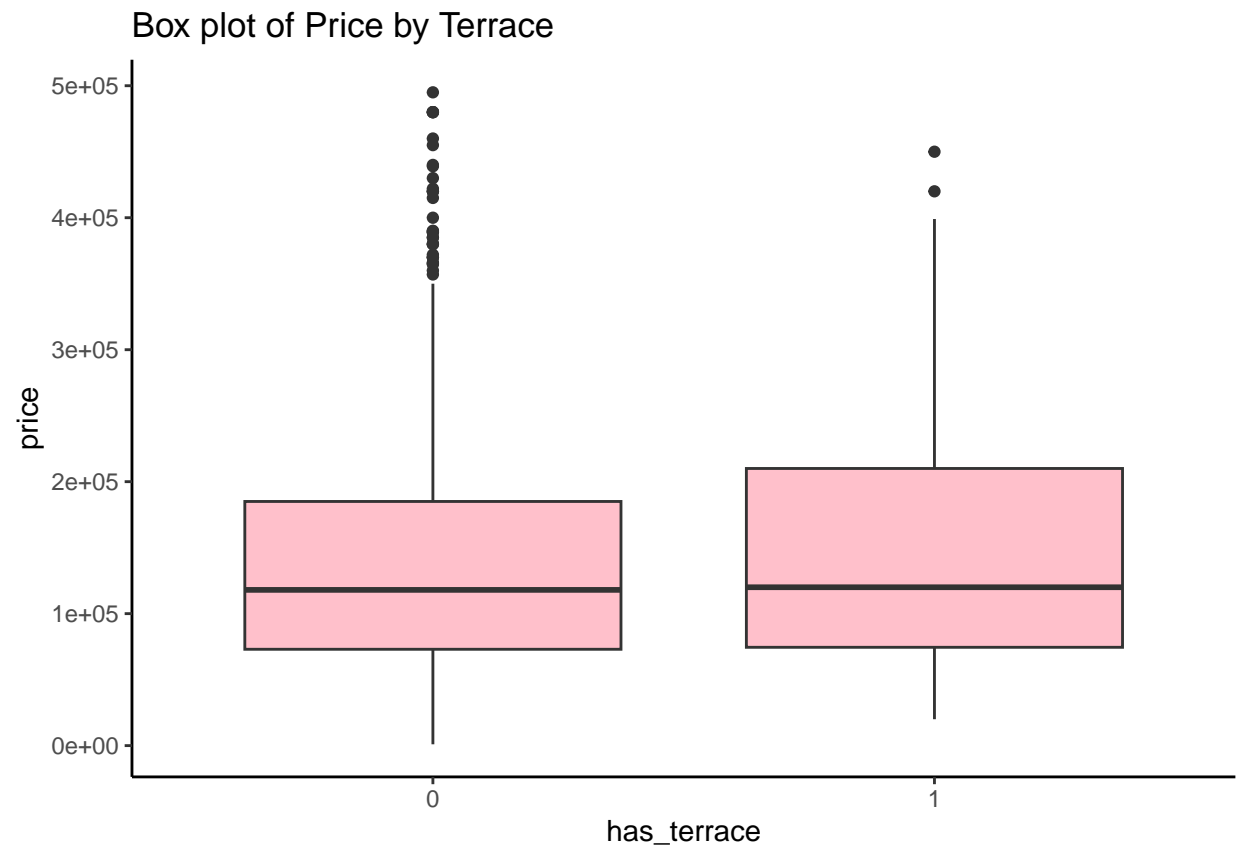


```
# Boxplot between price and has_alarm
```

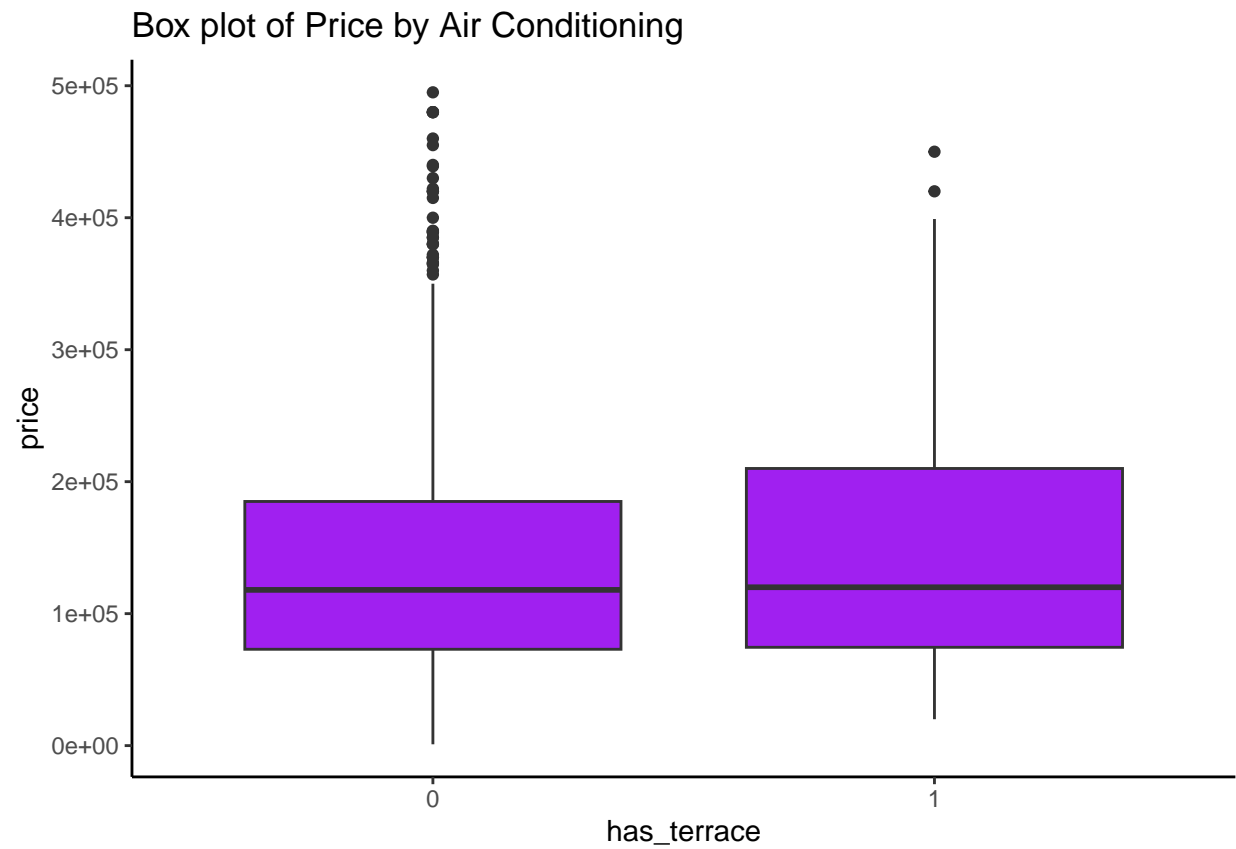
```
ggplot(data = mydf, aes(x=has_alarm, y=price)) +geom_boxplot(fill="green") + theme_classic() + ggtitle(
```



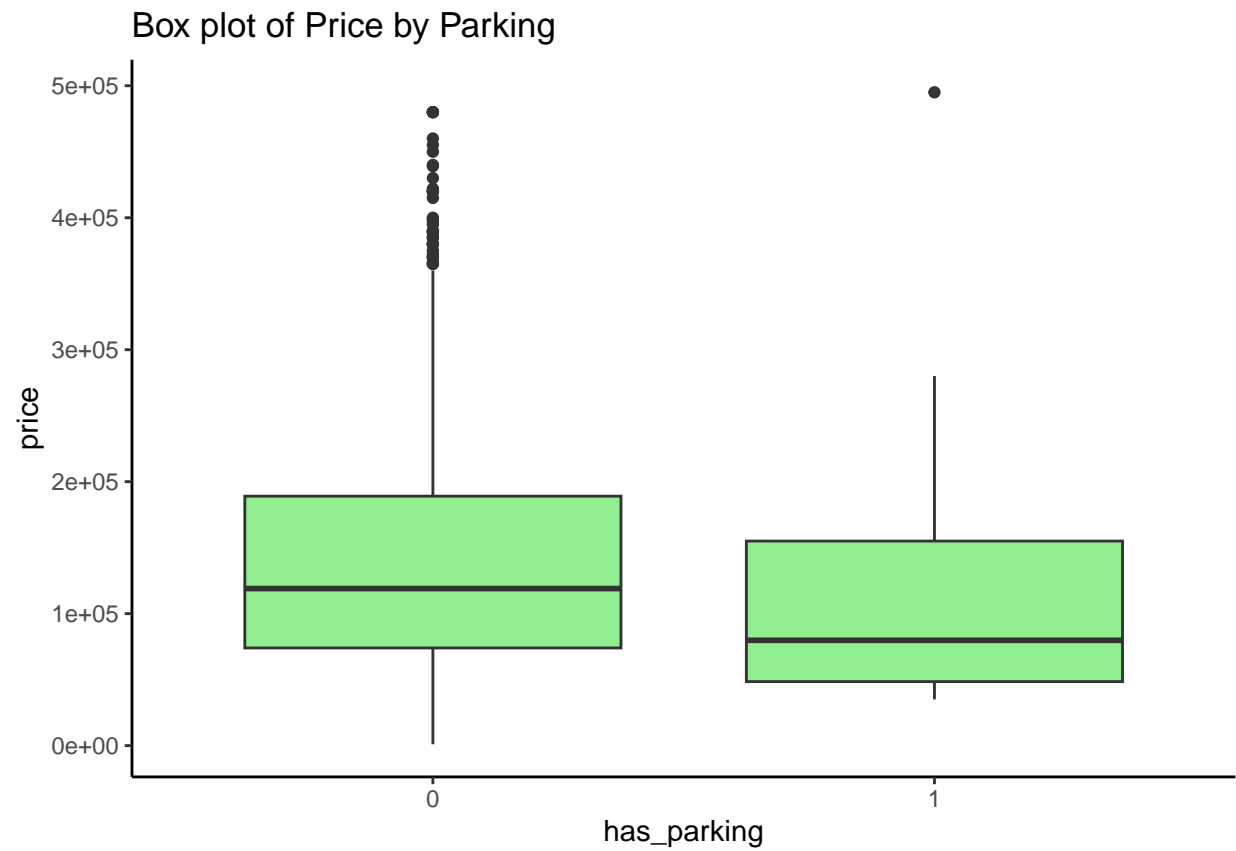
```
# Boxplot between price and has_terrace  
ggplot(data = mydf, aes(x=has_terrace, y=price)) +geom_boxplot(fill="pink") + theme_classic() + ggtitle
```

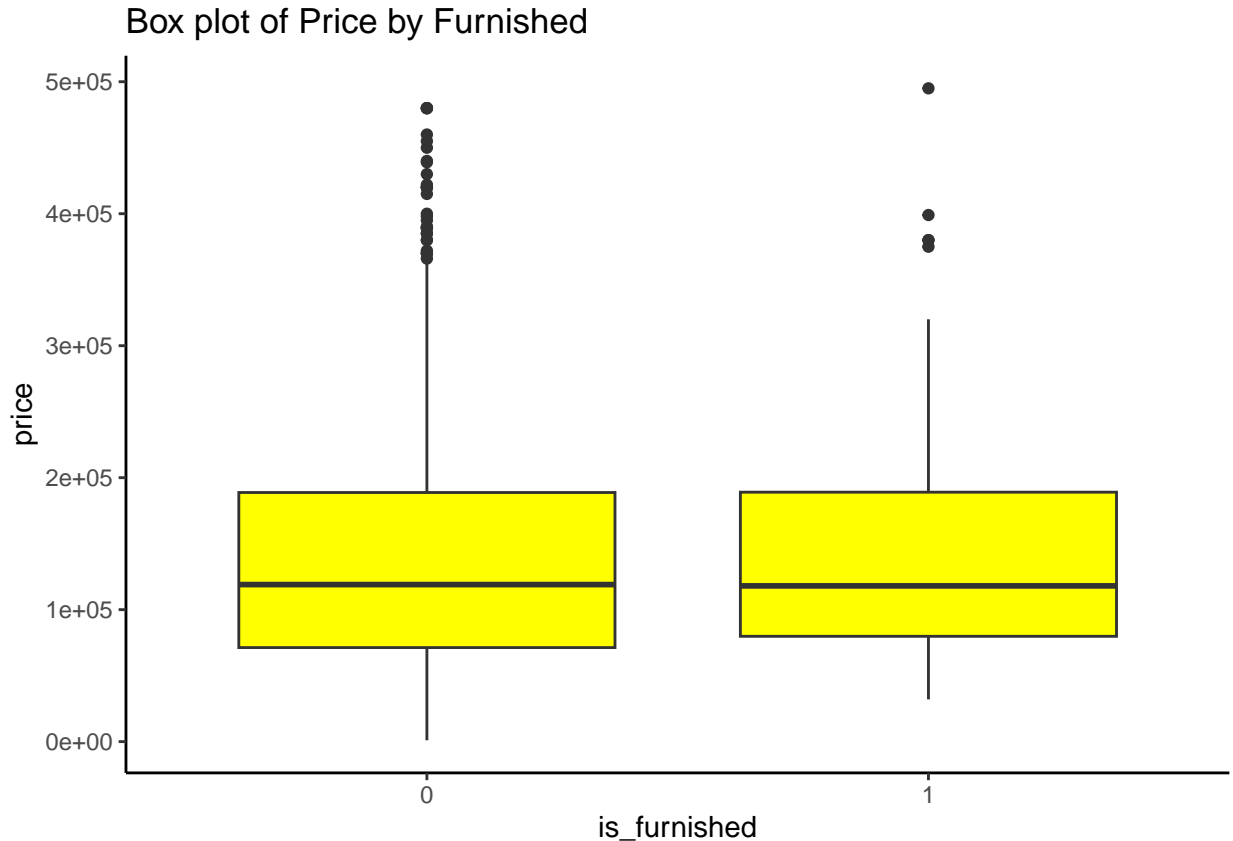
```
# Boxplot between price and has_airconditioning  
ggplot(data = mydf, aes(x=has_terrace, y=price)) +geom_boxplot(fill="purple") + theme_classic() + ggtit
```



```
# Boxplot between price and has_parking  
ggplot(data = mydf, aes(x=has_parking, y=price)) +geom_boxplot(fill="lightgreen") + theme_classic() + g
```



```
# Boxplot between price and is_furnished  
ggplot(data = mydf, aes(x=is_furnished, y=price)) +geom_boxplot(fill="yellow") + theme_classic() + ggti
```



2.3 Additional insights and issues

Additional Insights : a) Price variable has very weak positive correlation coefficient with other numerical variables - correlation test b) Price variable has near normal distribution but variables like mq have high positive skewness and outliers. c) Floor has extreme outlier ie 15th floor. Since it is not implausible value, we are not deleting the data. d) Frequency of : - non-terraced flats > terraced flats - flats without alarm system > flats with alarm system - flats without air conditioner > flats with air conditioner - flats without parking > flats with parking - furnished flats > unfurnished flats e) Autonomous and other heating type have almost equal distribution and median value. f) There is very less variability of Price explained by exploratory variables graphically.

3. Modelling

3.1 Explain your analysis plan

Analysis Plan :

- a) Price variable is dependent numerical variable
- b) Exploratory variables are both numerical and factorial
- c) Multiple regression is an ideal way to analyse the data
- d) Before modelling, it is important to explore the data using numerical and graphical summaries
- e) Data cleaning should include :
 - Removing invalid, implausible, missing data

f) Data can be corrected by :

- verifying with the source, imputed, ignored, row deletion, replaced by median

g) Outliers must not be deleted as they provide meaningful insights

h) Multi-collinearity check - variables using cor function

i) Modelling starts from maximal model and is checked for significance, R-square value, Residual plots

j) Extent of variability explained by the model determines goodness of fit

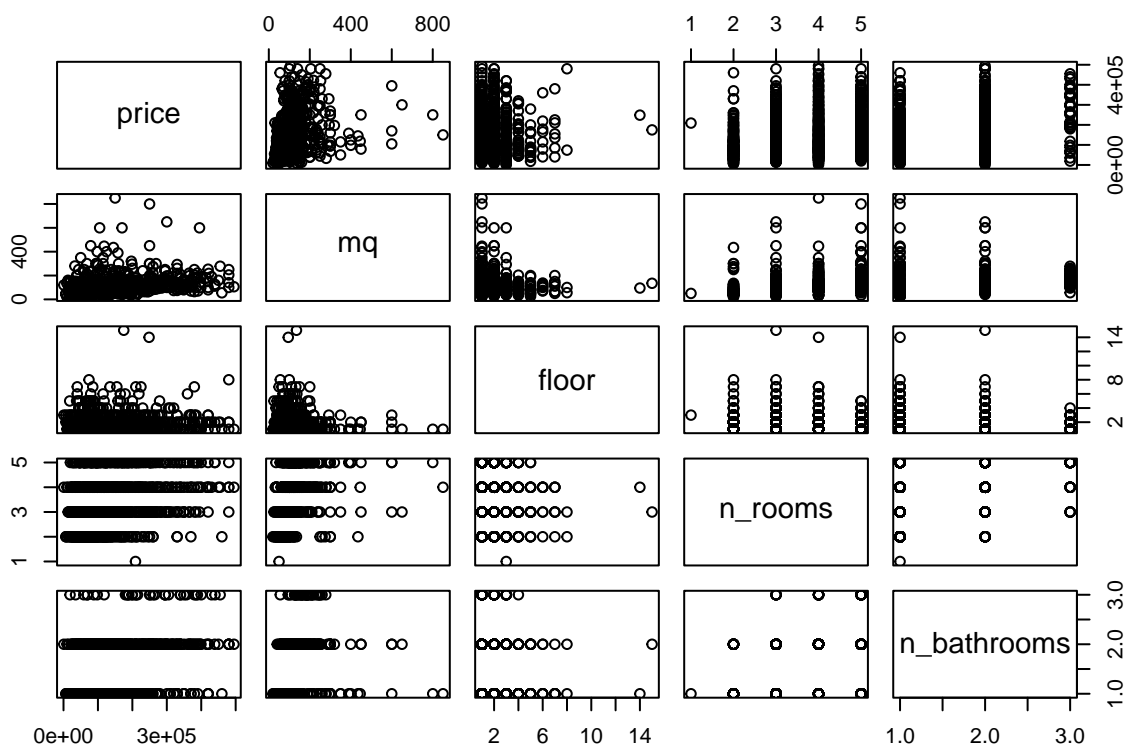
k) Transformation measures to improve the model

l) AIC (Akaike's Information Criteria) is used to assess model fit

3.2 Build a model for property price

Model for property price : a) Plotting graph to visualize correlation using pairs function Insights : - Mostly all parameters have zero or positive correlation with each other. - Marked variations seen in the data

```
mydf.subset <-subset(mydf, select=c("price", "mq", "floor", "n_rooms", "n_bathrooms"))  
pairs(mydf.subset)
```



b) Check multi-collinearity between variables Insights : No multi-collinearity between variables

```
cor(mydf.subset)
```

```
##           price           mq           floor           n_rooms n_bathrooms
## price      1.00000000  0.28865963  0.03249429  0.22161978  0.37797804
## mq         0.28865963  1.00000000 -0.05339105  0.37987903  0.31742179
## floor      0.03249429 -0.05339105  1.00000000 -0.02756669 -0.05943641
## n_rooms    0.22161978  0.37987903 -0.02756669  1.00000000  0.40224850
## n_bathrooms 0.37797804  0.31742179 -0.05943641  0.40224850  1.00000000
```

c) Maximal model - Multiple Regression

```
model.1<-lm(mydf$price ~ mydf$mq + mydf$floor + mydf$n_rooms + mydf$n_bathrooms + mydf$has_terrace + mydf$has_alarm1 + mydf$has_heating + mydf$has_parking + mydf$has_furnished)
```

3.3 Critique model using relevant diagnostics

a) Model Characteristics :

- This model includes all the exploratory variables
- Coefficients floor and n_bathrooms are most significant followed by has_alarm1
- R square is less (18.26%)implies only 18.26% of variability is explained by independent variables.
- F statistic value is less ie 20.28
- The model is significant

b) Diagnostic Tests :

- Residual vs Fitted graph is slightly curved.
- Heteroscedasticity seen - variance unevenly distributed data
- QQ Plot : S- shaped curve and Outliers present

c) Potential Weakness :

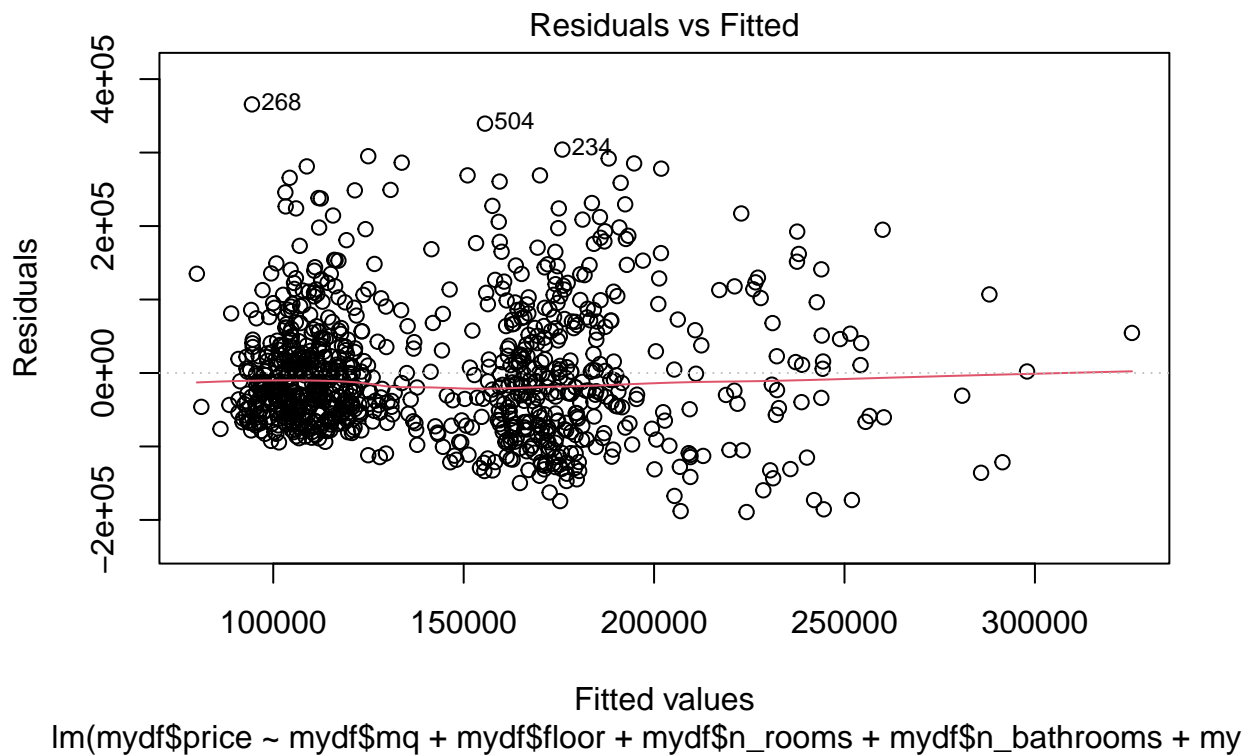
- There is no significant relationship between price and factorial variables. The presence of factorial variables decreases the R square value.
- Also, weak correlation coefficient between price and other numerical variables resulted into less fit model
- Presence of multiple outliers disrupts homogeneous variability of data points

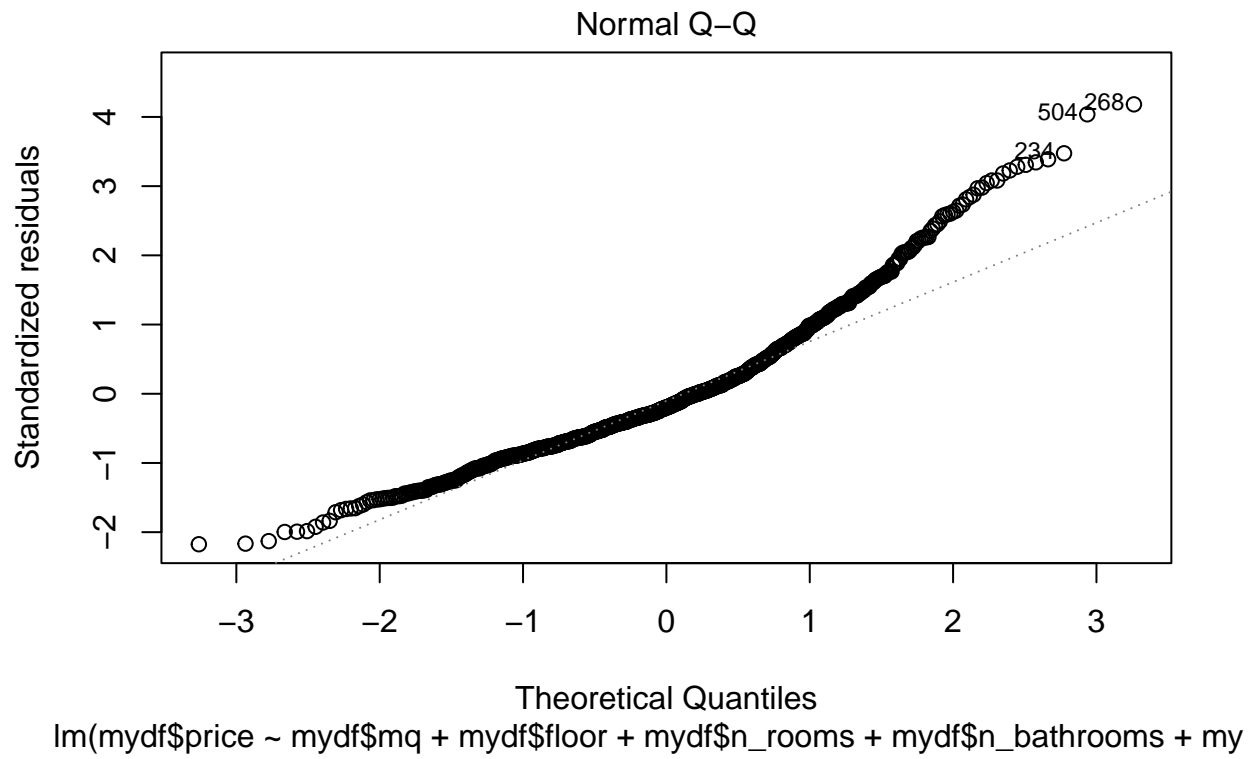
```
summary(model.1)
```

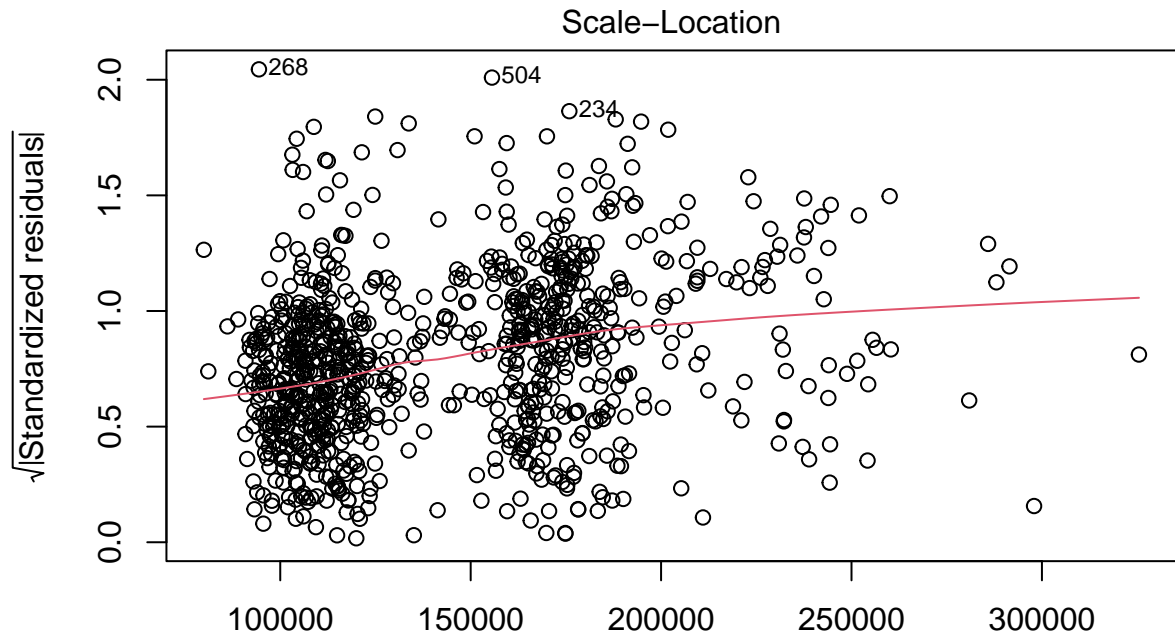
```
##
## Call:
## lm(formula = mydf$price ~ mydf$mq + mydf$floor + mydf$n_rooms +
##     mydf$n_bathrooms + mydf$has_terrace + mydf$has_alarm1 + mydf$has_heating +
##     mydf$has_air_conditioning + mydf$has_parking + mydf$has_furnished)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -189285  -57984  -17216   41330  365594
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    19983.57   12556.94   1.591   0.1119
```

```
## mydf$mq                235.98      42.76    5.518 4.49e-08 ***
## mydf$floor             4138.45    2377.97    1.740  0.0821 .
## mydf$n_rooms           2878.90    3408.13    0.845  0.3985
## mydf$n_bathrooms       51546.99   5711.93    9.024 < 2e-16 ***
## mydf$has_terrace1      10604.35   8689.95    1.220  0.2227
## mydf$has_alarm1        56531.11  27074.63    2.088  0.0371 *
## mydf$heatingother       6329.61   9237.63    0.685  0.4934
## mydf$has_air_conditioning1 -1910.01  6474.21   -0.295  0.7680
## mydf$has_parking1      -10196.68 22994.72   -0.443  0.6576
## mydf$is_furnished1      3957.36  10106.47    0.392  0.6955
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 87650 on 892 degrees of freedom
## Multiple R-squared:  0.1852, Adjusted R-squared:  0.1761
## F-statistic: 20.28 on 10 and 892 DF,  p-value: < 2.2e-16
```

```
plot(model.1)
```

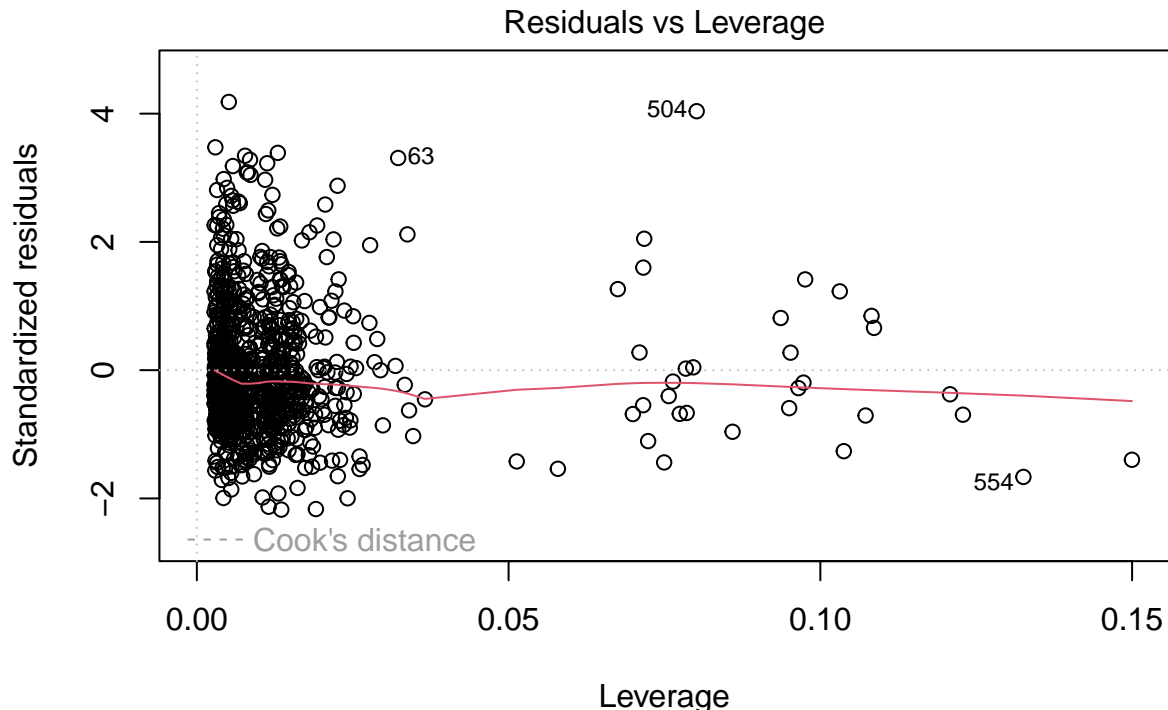






Fitted values

$\text{lm}(\text{mydf}\$price \sim \text{mydf}\$mq + \text{mydf}\$floor + \text{mydf}\$n_rooms + \text{mydf}\$n_bathrooms + \text{mydf}\$n_garage)$



$\text{lm}(\text{mydf\$price} \sim \text{mydf\$mq} + \text{mydf\$floor} + \text{mydf\$n_rooms} + \text{mydf\$n_bathrooms} + \text{mydf\$has_alarm})$

3.4 Suggest improvements to your model

Improvements : a) Transformation - using step function for minimal adequate model b) Testing minimum adequate model - using summary and diagnostic plots

Insights : a) Minimal adequate model - property price is significantly dependent on area, number of floors, number of bathrooms, alarm systems $\text{AIC}=20556.08$ $\text{mydf\$price} \sim \text{mydf\$mq} + \text{mydf\$floor} + \text{mydf\$n_bathrooms} + \text{mydf\has_alarm}

b) Model Summary:

- Model has good acceptance of fit
- All coefficients have significance
- R-square is 18%
- F-statistic is significant ie 50.14

c) Diagnostic Plots:

- Residual vs Fitted curve has improved. It is linear to horizontal axis
- Heteroscedasticity seen - variance unevenly distributed
- QQ Plot : Number of extreme outliers decreased
- Residual vs Leverage graph : Data points lie within Cook's distance. No significant anomaly seen

```
step(model.1)
```

```
## Start: AIC=20565.15
```

```

## mydf$price ~ mydf$mq + mydf$floor + mydf$n_rooms + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_alarm + mydf$heating + mydf$has_air_conditioning +
##   mydf$has_parking + mydf$is_furnished
##
##
##           Df Sum of Sq      RSS   AIC
## - mydf$has_air_conditioning 1 6.6861e+08 6.8530e+12 20563
## - mydf$is_furnished         1 1.1778e+09 6.8535e+12 20563
## - mydf$has_parking          1 1.5106e+09 6.8539e+12 20563
## - mydf$heating              1 3.6067e+09 6.8560e+12 20564
## - mydf$n_rooms              1 5.4814e+09 6.8578e+12 20564
## - mydf$has_terrace          1 1.1440e+10 6.8638e+12 20565
## <none>                      6.8524e+12 20565
## - mydf$floor                1 2.3267e+10 6.8756e+12 20566
## - mydf$has_alarm            1 3.3491e+10 6.8859e+12 20568
## - mydf$mq                   1 2.3392e+11 7.0863e+12 20594
## - mydf$n_bathrooms          1 6.2563e+11 7.4780e+12 20642
##
## Step: AIC=20563.24
## mydf$price ~ mydf$mq + mydf$floor + mydf$n_rooms + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_alarm + mydf$heating + mydf$has_parking +
##   mydf$is_furnished
##
##           Df Sum of Sq      RSS   AIC
## - mydf$is_furnished 1 9.7578e+08 6.8540e+12 20561
## - mydf$has_parking  1 1.6912e+09 6.8547e+12 20562
## - mydf$heating       1 3.5828e+09 6.8566e+12 20562
## - mydf$n_rooms       1 5.4856e+09 6.8585e+12 20562
## - mydf$has_terrace   1 1.0856e+10 6.8639e+12 20563
## <none>                6.8530e+12 20563
## - mydf$floor         1 2.3330e+10 6.8764e+12 20564
## - mydf$has_alarm     1 3.2838e+10 6.8859e+12 20566
## - mydf$mq            1 2.3332e+11 7.0863e+12 20592
## - mydf$n_bathrooms   1 6.2552e+11 7.4786e+12 20640
##
## Step: AIC=20561.37
## mydf$price ~ mydf$mq + mydf$floor + mydf$n_rooms + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_alarm + mydf$heating + mydf$has_parking
##
##           Df Sum of Sq      RSS   AIC
## - mydf$has_parking 1 1.6605e+09 6.8557e+12 20560
## - mydf$heating     1 3.5775e+09 6.8576e+12 20560
## - mydf$n_rooms     1 5.4772e+09 6.8595e+12 20560
## - mydf$has_terrace 1 1.1364e+10 6.8654e+12 20561
## <none>              6.8540e+12 20561
## - mydf$floor       1 2.3175e+10 6.8772e+12 20562
## - mydf$has_alarm   1 3.3182e+10 6.8872e+12 20564
## - mydf$mq          1 2.3377e+11 7.0878e+12 20590
## - mydf$n_bathrooms 1 6.2499e+11 7.4790e+12 20638
##
## Step: AIC=20559.59
## mydf$price ~ mydf$mq + mydf$floor + mydf$n_rooms + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_alarm + mydf$heating
##
##           Df Sum of Sq      RSS   AIC

```

```

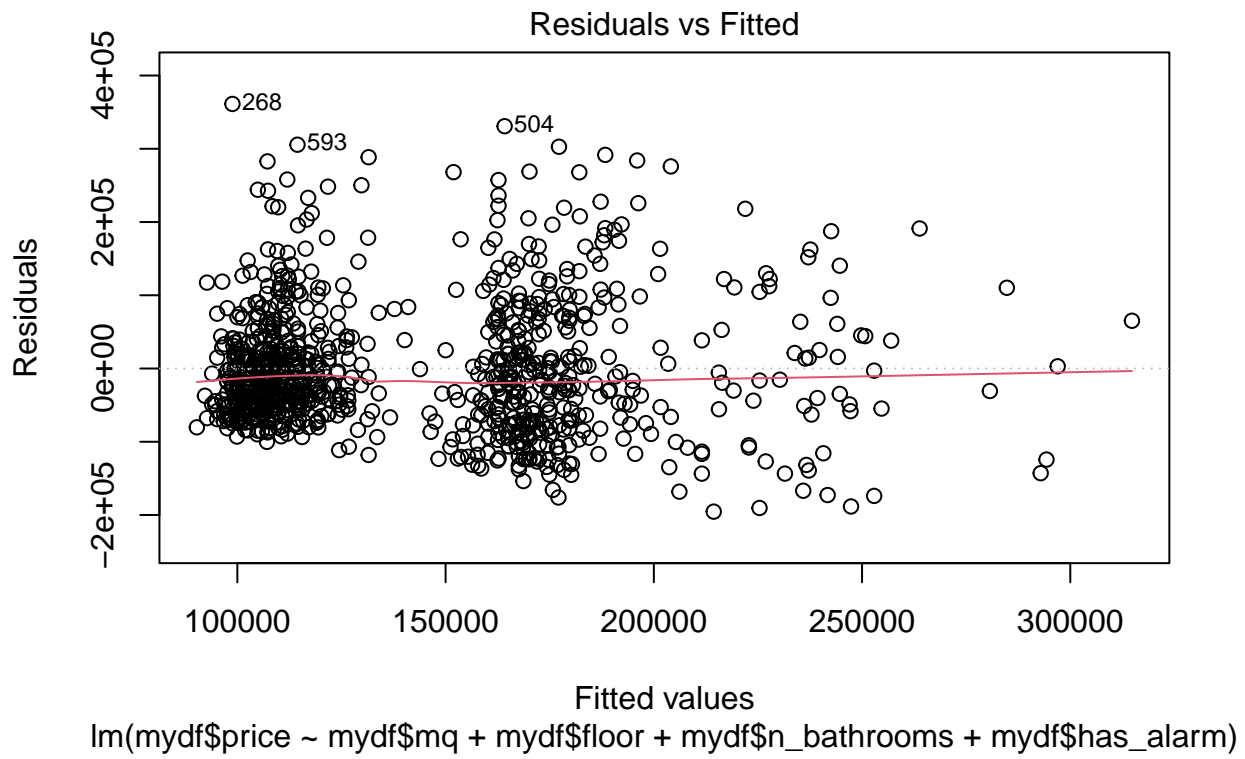
## - mydf$heating      1 3.5496e+09 6.8592e+12 20558
## - mydf$n_rooms      1 5.4997e+09 6.8612e+12 20558
## - mydf$has_terrace  1 1.0992e+10 6.8667e+12 20559
## <none>              6.8557e+12 20560
## - mydf$floor        1 2.3482e+10 6.8791e+12 20561
## - mydf$has_alarm    1 3.2391e+10 6.8881e+12 20562
## - mydf$mq           1 2.3514e+11 7.0908e+12 20588
## - mydf$n_bathrooms  1 6.2572e+11 7.4814e+12 20637
##
## Step: AIC=20558.06
## mydf$price ~ mydf$mq + mydf$floor + mydf$n_rooms + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_alarm
##
##           Df Sum of Sq      RSS   AIC
## - mydf$n_rooms      1 5.4709e+09 6.8647e+12 20557
## - mydf$has_terrace  1 1.0516e+10 6.8697e+12 20557
## <none>              6.8592e+12 20558
## - mydf$floor        1 3.1150e+10 6.8904e+12 20560
## - mydf$has_alarm    1 3.2571e+10 6.8918e+12 20560
## - mydf$mq           1 2.3214e+11 7.0914e+12 20586
## - mydf$n_bathrooms  1 6.2218e+11 7.4814e+12 20635
##
## Step: AIC=20556.78
## mydf$price ~ mydf$mq + mydf$floor + mydf$n_bathrooms + mydf$has_terrace +
##   mydf$has_alarm
##
##           Df Sum of Sq      RSS   AIC
## - mydf$has_terrace  1 9.9393e+09 6.8746e+12 20556
## <none>              6.8647e+12 20557
## - mydf$floor        1 3.1396e+10 6.8961e+12 20559
## - mydf$has_alarm    1 3.3016e+10 6.8977e+12 20559
## - mydf$mq           1 2.7667e+11 7.1414e+12 20591
## - mydf$n_bathrooms  1 7.3486e+11 7.5996e+12 20647
##
## Step: AIC=20556.08
## mydf$price ~ mydf$mq + mydf$floor + mydf$n_bathrooms + mydf$has_alarm
##
##           Df Sum of Sq      RSS   AIC
## <none>              6.8746e+12 20556
## - mydf$floor        1 3.3388e+10 6.9080e+12 20559
## - mydf$has_alarm    1 3.5910e+10 6.9105e+12 20559
## - mydf$mq           1 2.7564e+11 7.1503e+12 20590
## - mydf$n_bathrooms  1 7.3799e+11 7.6126e+12 20646
##
##
## Call:
## lm(formula = mydf$price ~ mydf$mq + mydf$floor + mydf$n_bathrooms +
##   mydf$has_alarm)
##
## Coefficients:
## (Intercept)          mydf$mq          mydf$floor  mydf$n_bathrooms
##      27728.4           244.1           4756.5           52905.7
## mydf$has_alarm1
##      57815.6

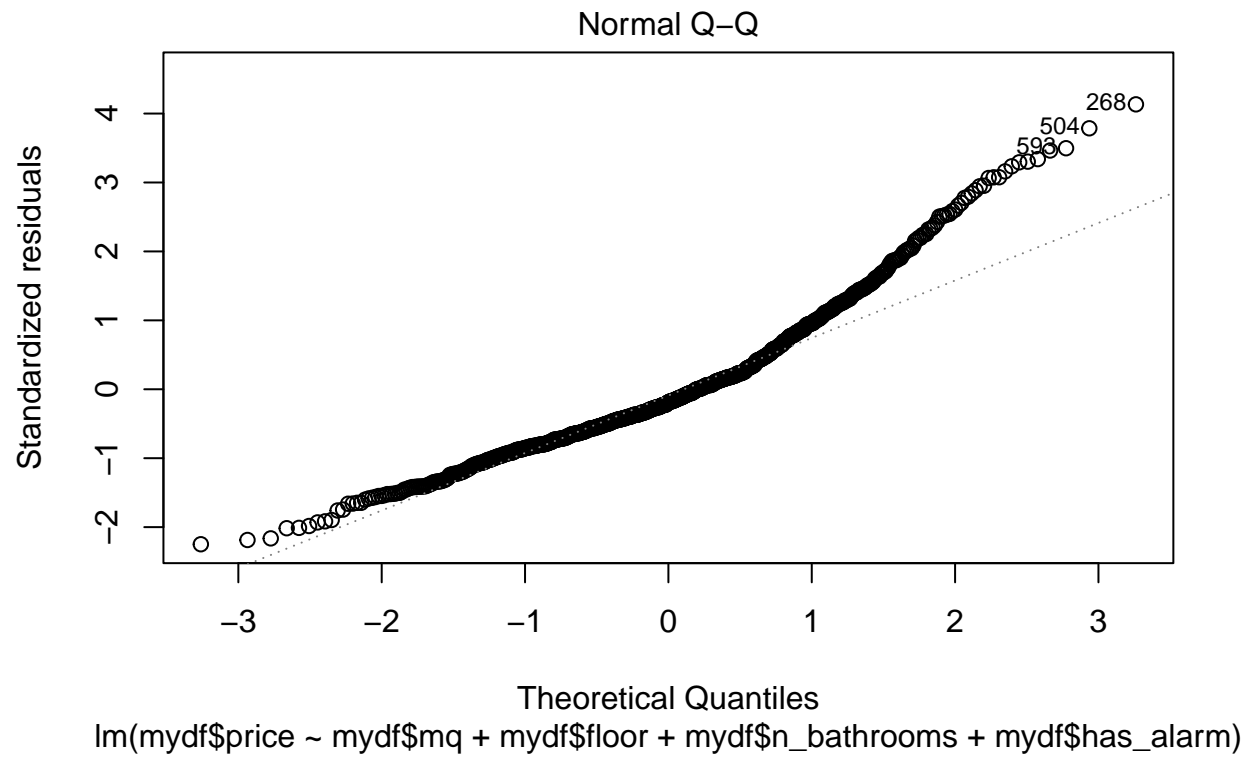
```

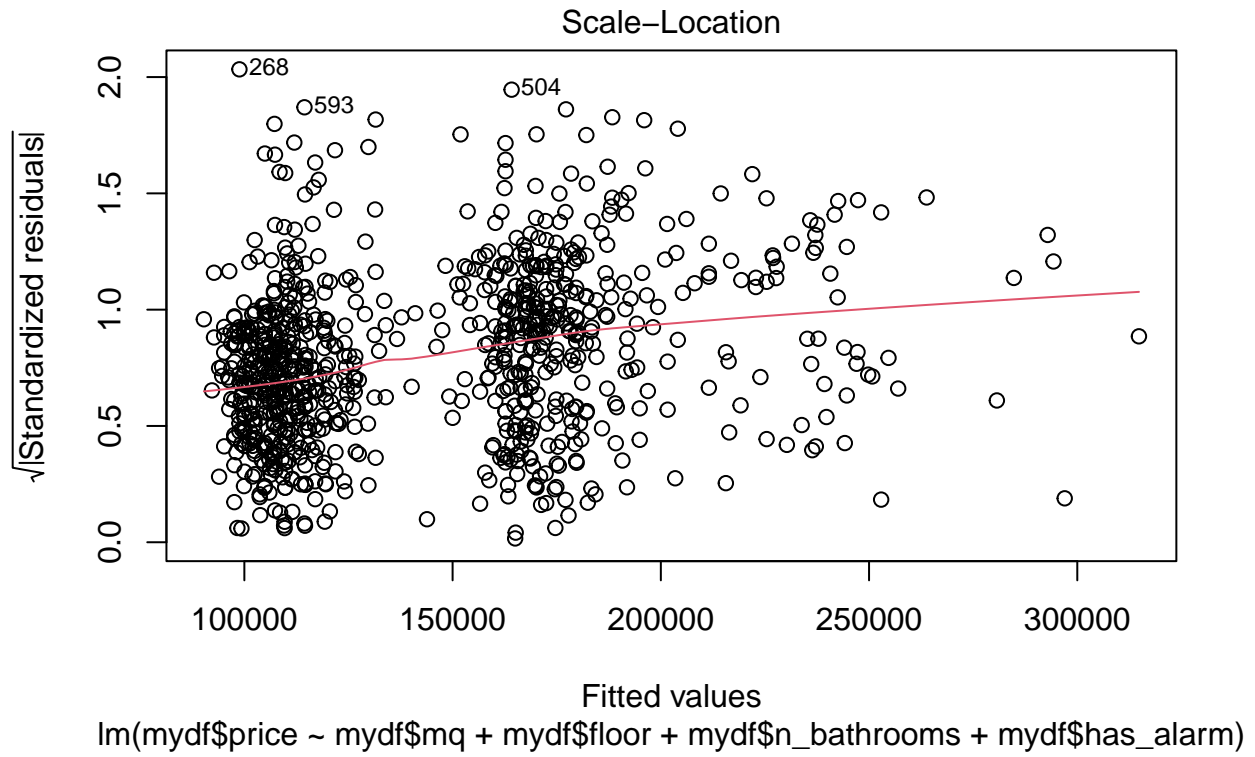
```
model.2 <-lm(mydf$price ~ mydf$mq + mydf$floor + mydf$n_bathrooms + mydf$has_alarm)
summary(model.2)
```

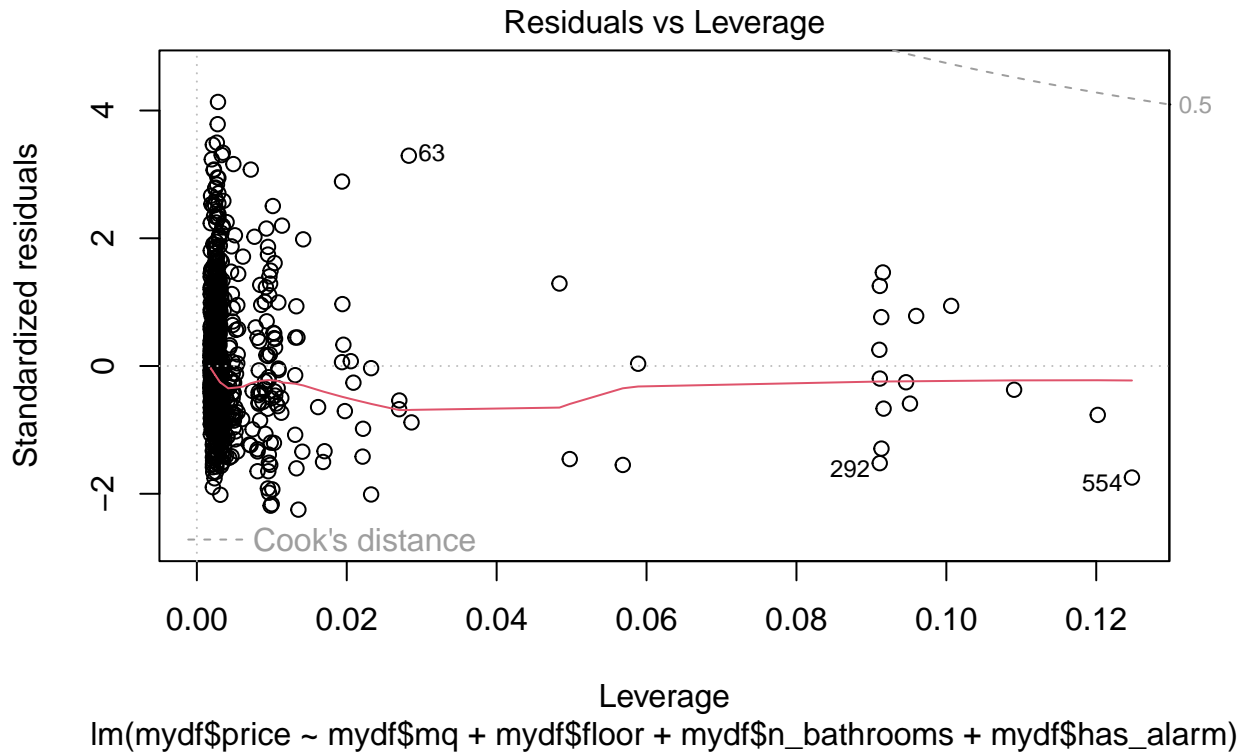
```
##
## Call:
## lm(formula = mydf$price ~ mydf$mq + mydf$floor + mydf$n_bathrooms +
##     mydf$has_alarm)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -195386  -56932  -16406   41301  361183
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    27728.37    9575.70   2.896  0.00387 **
## mydf$mq         244.12     40.68   6.000 2.85e-09 ***
## mydf$floor      4756.50    2277.59   2.088  0.03704 *
## mydf$n_bathrooms 52905.66    5388.43   9.818 < 2e-16 ***
## mydf$has_alarm1 57815.58   26694.49   2.166  0.03059 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 87500 on 898 degrees of freedom
## Multiple R-squared:  0.1826, Adjusted R-squared:  0.1789
## F-statistic: 50.14 on 4 and 898 DF,  p-value: < 2.2e-16
```

```
plot(model.2)
```









4. Extension work

4.1 Model the likelihood of a property being furnished (using the is_furnished variable provided).

Answer 4.1 a) Check data type and frequency of is_furnished variable Insights : - is_furnished => factorial variable - is_furnished has 2 values absent = 0, present = 1 - Dependent variable is is_furnished = Binary => Logistic Regression - Exploratory variables are numerical and factorial

```
class(mydf$is_furnished)
```

```
## [1] "factor"
```

```
table(mydf$is_furnished)
```

```
##
##  0  1
## 818 85
```

b) Logistic Regression using Maximal model without Interactions Insights :

- Intercept and Air Conditioning are significant coefficients

- AIC - 565.86
- Diagnostic Plots are not applicable to Logistic regression models

```
mydf.logit<-glm(mydf$sis_furnished ~ mydf$price + mydf$mq + mydf$floor + mydf$n_rooms + mydf$n_bathrooms
summary(mydf.logit)
```

```
##
## Call:
## glm(formula = mydf$sis_furnished ~ mydf$price + mydf$mq + mydf$floor +
##     mydf$n_rooms + mydf$n_bathrooms + mydf$has_terrace + mydf$has_alarm +
##     mydf$heating + mydf$has_air_conditioning + mydf$has_parking,
##     family = binomial)
##
## Deviance Residuals:
##      Min       1Q   Median       3Q      Max
## -0.7519  -0.5242  -0.3682  -0.3523   2.3985
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)    -2.513e+00  5.018e-01  -5.008  5.5e-07 ***
## mydf$price       4.940e-07  1.306e-06   0.378  0.705202
## mydf$mq          2.400e-04  1.552e-03   0.155  0.877161
## mydf$floor      -5.013e-02  9.994e-02  -0.502  0.615928
## mydf$n_rooms    -8.604e-03  1.342e-01  -0.064  0.948895
## mydf$n_bathrooms -1.129e-01  2.348e-01  -0.481  0.630504
## mydf$has_terrace1  3.905e-01  2.959e-01   1.319  0.187009
## mydf$has_alarm1   2.176e-01  8.162e-01   0.267  0.789757
## mydf$heatingother -2.594e-02  3.735e-01  -0.069  0.944624
## mydf$has_air_conditioning1 9.000e-01  2.373e-01   3.792  0.000149 ***
## mydf$has_parking1  2.965e-03  7.860e-01   0.004  0.996990
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##      Null deviance: 563.46  on 902  degrees of freedom
## Residual deviance: 543.86  on 892  degrees of freedom
## AIC: 565.86
##
## Number of Fisher Scoring iterations: 5
```

c) Logistic Regression with Interactions Insights :

- Multiple significant coefficients
- Larger analysis table

```
mydf.max.logit<-glm(mydf$sis_furnished ~ mydf$price * mydf$mq * mydf$floor * mydf$n_rooms * mydf$n_bathrooms
```

```
## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred
```

```
summary(mydf.max.logit)
```

```
##
## Call:
## glm(formula = mydf$is_furnished ~ mydf$price * mydf$mq * mydf$floor *
##      mydf$n_rooms * mydf$n_bathrooms * mydf$has_terrace * mydf$has_alarm *
##      mydf$heating * mydf$has_air_conditioning * mydf$has_parking,
##      family = binomial)
##
## Deviance Residuals:
##      Min       1Q   Median       3Q      Max
## -8.49      0.00      0.00      0.00      8.49
##
## Coefficients: (801 not defined because of singularities)
##
## (Intercept)
## mydf$price
## mydf$mq
## mydf$floor
## mydf$n_rooms
## mydf$n_bathrooms
## mydf$has_terrace1
## mydf$has_alarm1
## mydf$heatingother
## mydf$has_air_conditioning1
## mydf$has_parking1
## mydf$price:mydf$mq
## mydf$price:mydf$floor
## mydf$mq:mydf$floor
## mydf$price:mydf$n_rooms
## mydf$mq:mydf$n_rooms
## mydf$floor:mydf$n_rooms
## mydf$price:mydf$n_bathrooms
## mydf$mq:mydf$n_bathrooms
## mydf$floor:mydf$n_bathrooms
## mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$has_terrace1
## mydf$mq:mydf$has_terrace1
## mydf$floor:mydf$has_terrace1
## mydf$n_rooms:mydf$has_terrace1
## mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$has_alarm1
## mydf$mq:mydf$has_alarm1
## mydf$floor:mydf$has_alarm1
## mydf$n_rooms:mydf$has_alarm1
## mydf$n_bathrooms:mydf$has_alarm1
## mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$heatingother
## mydf$mq:mydf$heatingother
## mydf$floor:mydf$heatingother
## mydf$n_rooms:mydf$heatingother
## mydf$n_bathrooms:mydf$heatingother
## mydf$has_terrace1:mydf$heatingother
```

```

## mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$has_air_conditioning1
## mydf$mq:mydf$has_air_conditioning1
## mydf$floor:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$has_parking1
## mydf$mq:mydf$has_parking1
## mydf$floor:mydf$has_parking1
## mydf$n_rooms:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_parking1
## mydf$has_terrace1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_parking1
## mydf$heatingother:mydf$has_parking1
## mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor
## mydf$price:mydf$mq:mydf$n_rooms
## mydf$price:mydf$floor:mydf$n_rooms
## mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$heatingother

```

```

## mydf$price:mydf$floor:mydf$heatingother
## mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$price:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$price:mydf$heatingother:mydf$has_air_conditioning1
## mydf$mq:mydf$heatingother:mydf$has_air_conditioning1
## mydf$floor:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_parking1

```

```

## mydf$price:mydf$n_bathrooms:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1

```

```

## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1

```



```

## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1

```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]


```

## mydf$price:mydf$has_air_conditioning1
## mydf$mq:mydf$has_air_conditioning1
## mydf$floor:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$has_parking1
## mydf$mq:mydf$has_parking1
## mydf$floor:mydf$has_parking1
## mydf$n_rooms:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_parking1
## mydf$has_terrace1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_parking1
## mydf$heatingother:mydf$has_parking1
## mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor
## mydf$price:mydf$mq:mydf$n_rooms
## mydf$price:mydf$floor:mydf$n_rooms
## mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$heatingother
## mydf$price:mydf$floor:mydf$heatingother

```

```

## mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$price:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$price:mydf$heatingother:mydf$has_air_conditioning1
## mydf$mq:mydf$heatingother:mydf$has_air_conditioning1
## mydf$floor:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_parking1

```



```

## mydf$mq:mydf$n_bathrooms:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1

```

```

## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1

```

[illegible]

```

## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1

```


[illegible]

[illegible]

[illegible]

[illegible]

[illegible]


```

## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_a
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother:mydf$
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother:mydf$has
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$
## mydf$price:mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:m
## mydf$price:mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingotl
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has
##
## (Intercept)
## mydf$price
## mydf$mq
## mydf$floor
## mydf$n_rooms
## mydf$n_bathrooms
## mydf$has_terrace1
## mydf$has_alarm1
## mydf$heatingother
## mydf$has_air_conditioning1
## mydf$has_parking1
## mydf$price:mydf$mq
## mydf$price:mydf$floor
## mydf$mq:mydf$floor
## mydf$price:mydf$n_rooms
## mydf$mq:mydf$n_rooms
## mydf$floor:mydf$n_rooms
## mydf$price:mydf$n_bathrooms
## mydf$mq:mydf$n_bathrooms
## mydf$floor:mydf$n_bathrooms
## mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$has_terrace1
## mydf$mq:mydf$has_terrace1
## mydf$floor:mydf$has_terrace1
## mydf$n_rooms:mydf$has_terrace1
## mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$has_alarm1
## mydf$mq:mydf$has_alarm1
## mydf$floor:mydf$has_alarm1
## mydf$n_rooms:mydf$has_alarm1
## mydf$n_bathrooms:mydf$has_alarm1
## mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$heatingother
## mydf$mq:mydf$heatingother
## mydf$floor:mydf$heatingother
## mydf$n_rooms:mydf$heatingother
## mydf$n_bathrooms:mydf$heatingother
## mydf$has_terrace1:mydf$heatingother
## mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$has_air_conditioning1

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## mydf$mq:mydf$has_air_conditioning1
## mydf$floor:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$has_parking1
## mydf$mq:mydf$has_parking1
## mydf$floor:mydf$has_parking1
## mydf$n_rooms:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_parking1
## mydf$has_terrace1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_parking1
## mydf$heatingother:mydf$has_parking1
## mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor
## mydf$price:mydf$mq:mydf$n_rooms
## mydf$price:mydf$floor:mydf$n_rooms
## mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$heatingother
## mydf$price:mydf$floor:mydf$heatingother
## mydf$mq:mydf$floor:mydf$heatingother

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## mydf$price:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$price:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$price:mydf$heatingother:mydf$has_air_conditioning1
## mydf$mq:mydf$heatingother:mydf$has_air_conditioning1
## mydf$floor:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_parking1

```

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## mydf$floor:mydf$n_bathrooms:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_alarm1

```

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## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1

```

[illegible]

```

## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1

```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]


```

## mydf$floor:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$has_parking1
## mydf$mq:mydf$has_parking1
## mydf$floor:mydf$has_parking1
## mydf$n_rooms:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_parking1
## mydf$has_terrace1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_parking1
## mydf$heatingother:mydf$has_parking1
## mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor
## mydf$price:mydf$mq:mydf$n_rooms
## mydf$price:mydf$floor:mydf$n_rooms
## mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$heatingother
## mydf$price:mydf$floor:mydf$heatingother
## mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$heatingother

```

```

## mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$price:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$price:mydf$heatingother:mydf$has_air_conditioning1
## mydf$mq:mydf$heatingother:mydf$has_air_conditioning1
## mydf$floor:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_parking1

```

```

## mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_alarm1

```

```

## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_air_conditioning1

```


[illegible]

```

## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_air_conditioning1:mydf$has_parking1

```


[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]


```

## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
##
## (Intercept)
## mydf$price
## mydf$mq
## mydf$floor
## mydf$n_rooms
## mydf$n_bathrooms
## mydf$has_terrace1
## mydf$has_alarm1
## mydf$heatingother
## mydf$has_air_conditioning1
## mydf$has_parking1
## mydf$price:mydf$mq
## mydf$price:mydf$floor
## mydf$mq:mydf$floor
## mydf$price:mydf$n_rooms
## mydf$mq:mydf$n_rooms
## mydf$floor:mydf$n_rooms
## mydf$price:mydf$n_bathrooms
## mydf$mq:mydf$n_bathrooms
## mydf$floor:mydf$n_bathrooms
## mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$has_terrace1
## mydf$mq:mydf$has_terrace1
## mydf$floor:mydf$has_terrace1
## mydf$n_rooms:mydf$has_terrace1
## mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$has_alarm1
## mydf$mq:mydf$has_alarm1
## mydf$floor:mydf$has_alarm1
## mydf$n_rooms:mydf$has_alarm1
## mydf$n_bathrooms:mydf$has_alarm1
## mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$heatingother
## mydf$mq:mydf$heatingother
## mydf$floor:mydf$heatingother
## mydf$n_rooms:mydf$heatingother
## mydf$n_bathrooms:mydf$heatingother
## mydf$has_terrace1:mydf$heatingother
## mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$has_air_conditioning1
## mydf$mq:mydf$has_air_conditioning1
## mydf$floor:mydf$has_air_conditioning1

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## mydf$n_rooms:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$has_parking1
## mydf$mq:mydf$has_parking1
## mydf$floor:mydf$has_parking1
## mydf$n_rooms:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_parking1
## mydf$has_terrace1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_parking1
## mydf$heatingother:mydf$has_parking1
## mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor
## mydf$price:mydf$mq:mydf$n_rooms
## mydf$price:mydf$floor:mydf$n_rooms
## mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$heatingother
## mydf$price:mydf$floor:mydf$heatingother
## mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$heatingother

```



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## mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$price:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$mq:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$floor:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_air_conditioning1
## mydf$price:mydf$heatingother:mydf$has_air_conditioning1
## mydf$mq:mydf$heatingother:mydf$has_air_conditioning1
## mydf$floor:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_rooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_terrace1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$has_alarm1:mydf$heatingother:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_parking1

```

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## mydf$price:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms
## mydf$price:mydf$mq:mydf$floor:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms
## mydf$price:mydf$mq:mydf$floor:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$floor:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_alarm1

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## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$floor:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$floor:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$mq:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_air_conditioning1
## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_air_conditioning1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_air_conditioning1

```

[illegible]

```

## mydf$price:mydf$mq:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$n_bathrooms:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_rooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_parking1
## mydf$price:mydf$mq:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$floor:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$n_rooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$n_bathrooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$n_bathrooms:mydf$has_air_conditioning1:mydf$has_parking1

```

```
## mydf$floor:mydf$nbathrooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$nb_rooms:mydf$nbathrooms:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$nb_rooms:mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$nb_bathrooms:mydf$has_terrace1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$nb_rooms:mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$nb_bathrooms:mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_terrace1:mydf$has_alarm1:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$mq:mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$floor:mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$nb_rooms:mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$nb_bathrooms:mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_terrace1:mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$has_alarm1:mydf$heatingother:mydf$has_air_conditioning1:mydf$has_parking1
## mydf$price:mydf$mq:mydf$floor:mydf$nb_rooms:mydf$nb_bathrooms
## mydf$price:mydf$mq:mydf$floor:mydf$nb_rooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$floor:mydf$nb_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$nb_rooms:mydf$nb_bathrooms:mydf$has_terrace1
## mydf$price:mydf$floor:mydf$nb_rooms:mydf$nb_bathrooms:mydf$has_terrace1
## mydf$mq:mydf$floor:mydf$nb_rooms:mydf$nb_bathrooms:mydf$has_terrace1
## mydf$price:mydf$mq:mydf$floor:mydf$nb_rooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$floor:mydf$nb_bathrooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$nb_rooms:mydf$nb_bathrooms:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$nb_rooms:mydf$nb_bathrooms:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$nb_rooms:mydf$nb_bathrooms:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$floor:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$nb_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$nb_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$nb_rooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$mq:mydf$nb_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$nb_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$mq:mydf$floor:mydf$nb_bathrooms:mydf$has_terrace1:mydf$has_alarm1
## mydf$price:mydf$floor:mydf$nb_rooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$mq:mydf$floor:mydf$nb_bathrooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$nb_rooms:mydf$nb_bathrooms:mydf$heatingother
## mydf$price:mydf$floor:mydf$nb_rooms:mydf$nb_bathrooms:mydf$heatingother
## mydf$mq:mydf$floor:mydf$nb_rooms:mydf$nb_bathrooms:mydf$heatingother
## mydf$price:mydf$mq:mydf$nb_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$floor:mydf$nb_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$mq:mydf$floor:mydf$nb_bathrooms:mydf$has_terrace1:mydf$heatingother
## mydf$price:mydf$nb_rooms:mydf$nb_bathrooms:mydf$has_terrace1:mydf$heatingother
```


[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]


```
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$heatingother:mydf$
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_alarm1:mydf$heatingother:mydf$has_
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$has_
## mydf$price:mydf$mq:mydf$floor:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother:mydf$
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingotl
## mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$heatingother
## mydf$price:mydf$mq:mydf$floor:mydf$n_rooms:mydf$n_bathrooms:mydf$has_terrace1:mydf$has_alarm1:mydf$has_
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##      Null deviance:  563.46  on 902  degrees of freedom
## Residual deviance: 4685.67  on 680  degrees of freedom
## AIC: 5131.7
##
## Number of Fisher Scoring iterations: 14
```

d) Logistic Regression using Step Function on Maximal model without Interactions Insights :

- Only has_air_conditioning coefficient is significant after performing step function

```
step(mydf.logit)
```

```
## Start:  AIC=565.86
## mydf$is_furnished ~ mydf$price + mydf$mq + mydf$floor + mydf$n_rooms +
##      mydf$n_bathrooms + mydf$has_terrace + mydf$has_alarm + mydf$heating +
##      mydf$has_air_conditioning + mydf$has_parking
##
##              Df Deviance    AIC
## - mydf$has_parking      1   543.86 563.86
## - mydf$n_rooms          1   543.87 563.87
## - mydf$heating          1   543.87 563.87
## - mydf$mq               1   543.88 563.88
## - mydf$has_alarm        1   543.93 563.93
## - mydf$price            1   544.00 564.00
## - mydf$n_bathrooms      1   544.09 564.09
## - mydf$floor            1   544.13 564.13
## - mydf$has_terrace      1   545.51 565.51
## <none>                  543.86 565.86
## - mydf$has_air_conditioning 1   558.03 578.03
##
## Step:  AIC=563.86
## mydf$is_furnished ~ mydf$price + mydf$mq + mydf$floor + mydf$n_rooms +
##      mydf$n_bathrooms + mydf$has_terrace + mydf$has_alarm + mydf$heating +
##      mydf$has_air_conditioning
##
##              Df Deviance    AIC
## - mydf$n_rooms          1   543.87 561.87
## - mydf$heating          1   543.87 561.87
```

```

## - mydf$mq                1    543.88 561.88
## - mydf$has_alarm         1    543.93 561.93
## - mydf$price             1    544.00 562.00
## - mydf$n_bathrooms       1    544.09 562.09
## - mydf$floor             1    544.13 562.13
## - mydf$has_terrace       1    545.52 563.52
## <none>                   543.86 563.86
## - mydf$has_air_conditioning 1    558.15 576.15
##
## Step: AIC=561.87
## mydf$is_furnished ~ mydf$price + mydf$mq + mydf$floor + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_alarm + mydf$heating + mydf$has_air_conditioning
##
##               Df Deviance    AIC
## - mydf$heating      1    543.87 559.87
## - mydf$mq           1    543.89 559.89
## - mydf$has_alarm     1    543.93 559.93
## - mydf$price         1    544.01 560.01
## - mydf$floor         1    544.13 560.13
## - mydf$n_bathrooms   1    544.14 560.14
## - mydf$has_terrace   1    545.53 561.53
## <none>              543.87 561.87
## - mydf$has_air_conditioning 1    558.15 574.15
##
## Step: AIC=559.87
## mydf$is_furnished ~ mydf$price + mydf$mq + mydf$floor + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_alarm + mydf$has_air_conditioning
##
##               Df Deviance    AIC
## - mydf$mq           1    543.89 557.89
## - mydf$has_alarm     1    543.94 557.94
## - mydf$price         1    544.01 558.01
## - mydf$n_bathrooms   1    544.14 558.14
## - mydf$floor         1    544.18 558.18
## - mydf$has_terrace   1    545.55 559.55
## <none>              543.87 559.87
## - mydf$has_air_conditioning 1    558.16 572.16
##
## Step: AIC=557.89
## mydf$is_furnished ~ mydf$price + mydf$floor + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_alarm + mydf$has_air_conditioning
##
##               Df Deviance    AIC
## - mydf$has_alarm     1    543.96 555.96
## - mydf$price         1    544.06 556.06
## - mydf$n_bathrooms   1    544.15 556.15
## - mydf$floor         1    544.22 556.22
## - mydf$has_terrace   1    545.56 557.56
## <none>              543.89 557.89
## - mydf$has_air_conditioning 1    558.25 570.25
##
## Step: AIC=555.96
## mydf$is_furnished ~ mydf$price + mydf$floor + mydf$n_bathrooms +
##   mydf$has_terrace + mydf$has_air_conditioning

```

```

##
##              Df Deviance    AIC
## - mydf$price          1   544.15 554.15
## - mydf$n_bathrooms     1   544.19 554.19
## - mydf$floor           1   544.29 554.29
## - mydf$has_terrace     1   545.66 555.66
## <none>                 543.96 555.96
## - mydf$has_air_conditioning 1   558.78 568.78
##
## Step:  AIC=554.15
## mydf$is_furnished ~ mydf$floor + mydf$n_bathrooms + mydf$has_terrace +
##   mydf$has_air_conditioning
##
##              Df Deviance    AIC
## - mydf$n_bathrooms     1   544.27 552.27
## - mydf$floor           1   544.45 552.45
## - mydf$has_terrace     1   545.91 553.91
## <none>                 544.15 554.15
## - mydf$has_air_conditioning 1   559.01 567.01
##
## Step:  AIC=552.27
## mydf$is_furnished ~ mydf$floor + mydf$has_terrace + mydf$has_air_conditioning
##
##              Df Deviance    AIC
## - mydf$floor           1   544.55 550.55
## - mydf$has_terrace     1   546.01 552.01
## <none>                 544.27 552.27
## - mydf$has_air_conditioning 1   559.06 565.06
##
## Step:  AIC=550.55
## mydf$is_furnished ~ mydf$has_terrace + mydf$has_air_conditioning
##
##              Df Deviance    AIC
## - mydf$has_terrace     1   546.21 550.21
## <none>                 544.55 550.55
## - mydf$has_air_conditioning 1   559.40 563.40
##
## Step:  AIC=550.21
## mydf$is_furnished ~ mydf$has_air_conditioning
##
##              Df Deviance    AIC
## <none>                 546.21 550.21
## - mydf$has_air_conditioning 1   563.46 565.46
##
##
## Call:  glm(formula = mydf$is_furnished ~ mydf$has_air_conditioning,
##   family = binomial)
##
## Coefficients:
##              (Intercept)  mydf$has_air_conditioning1
##                -2.6603                0.9616
##
## Degrees of Freedom: 902 Total (i.e. Null);  901 Residual
## Null Deviance:      563.5

```

```
## Residual Deviance: 546.2      AIC: 550.2
```

e) Logistic Regression with has_air_conditioning - Minimal adequate model

```
mydf.step.logit <- glm(formula = mydf$is_furnished ~ mydf$has_air_conditioning,
  family = binomial)
summary(mydf.step.logit)
```

```
##
## Call:
## glm(formula = mydf$is_furnished ~ mydf$has_air_conditioning,
##      family = binomial)
##
## Deviance Residuals:
##      Min       1Q   Median       3Q      Max
## -0.5796  -0.5796  -0.3677  -0.3677   2.3357
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)      -2.6603     0.1635 -16.266 < 2e-16 ***
## mydf$has_air_conditioning1  0.9616     0.2303   4.175 2.97e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##      Null deviance: 563.46  on 902  degrees of freedom
## Residual deviance: 546.21  on 901  degrees of freedom
## AIC: 550.21
##
## Number of Fisher Scoring iterations: 5
```

f) Calculating Odds Ratio on the Maximal model without Interactions

```
exp(coef(mydf.logit))
```

```
##              (Intercept)              mydf$price
##              0.0810340              1.0000005
##              mydf$mq              mydf$floor
##              1.0002400              0.9511011
##              mydf$n_rooms              mydf$n_bathrooms
##              0.9914329              0.8932175
##              mydf$has_terrace1              mydf$has_alarm1
##              1.4777104              1.2431144
##              mydf$heatingother mydf$has_air_conditioning1
##              0.9743912              2.4596512
##              mydf$has_parking1
##              1.0029691
```

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