Final Results and Code

Note: I have made some changes from my initial results such as adding important amenities to the models after figuring out a way to do it. There are more changes as well as you can see below.

Load the Dataset

data <- read.csv('C:/Users/Ryan/Desktop/Capstone/listings.csv')  
str(data)

## 'data.frame': 37728 obs. of 106 variables:  
## $ id : int 109 344 2708 2732 2864 3021 5728 5729 5843 6033 ...  
## $ listing\_url : Factor w/ 37728 levels "https://www.airbnb.com/rooms/10000255",..: 481 21558 14528 14722 15900 17441 34749 34752 34828 34939 ...  
## $ scrape\_id : num 2.02e+13 2.02e+13 2.02e+13 2.02e+13 2.02e+13 ...  
## $ last\_scraped : Factor w/ 4 levels "2020-04-14","2020-04-15",..: 2 2 1 1 1 2 1 1 1 2 ...  
## $ name : Factor w/ 37000 levels "","'20s Showplace With Mid-Century Decor in Hancock Park",..: 3922 14623 22062 36970 582 17228 34285 36983 4521 25634 ...  
## $ summary : Factor w/ 32576 levels "","'Casita Esme' is truly charming. The enclosed private yard is landscaped with an ever-green lawn (synthetic gr"| \_\_truncated\_\_,..: 363 26822 19244 1 6815 2816 19518 19519 9291 19371 ...  
## $ space : Factor w/ 25077 levels "","'Cloud 9' is stylishly appointed with a modern surf side chic decor and all the modern entertainment and living"| \_\_truncated\_\_,..: 346 4269 6317 19840 17777 14927 5282 5283 12277 23901 ...  
## $ description : Factor w/ 34500 levels "","'Casita Esme' is truly charming. The enclosed private yard is landscaped with an ever-green lawn (synthetic gr"| \_\_truncated\_\_,..: 388 28403 20383 28632 7179 2930 20672 20673 9767 20512 ...  
## $ experiences\_offered : Factor w/ 1 level "none": 1 1 1 1 1 1 1 1 1 1 ...  
## $ neighborhood\_overview : Factor w/ 20880 levels "","-- 2 miles to Santa Monica beach -- 2 miles to Venice Beach -- near Getty Center + Hammer Museum -- walkable"| \_\_truncated\_\_,..: 1 10851 19684 16928 20367 16940 10155 10155 10156 1 ...  
## $ notes : Factor w/ 15294 levels "","---------------------------------------------------------------------------------------------------------- CORO"| \_\_truncated\_\_,..: 1 7137 2217 1 5076 1 8081 8081 8081 140 ...  
## $ transit : Factor w/ 19034 levels "","-- easy street parking [be careful during street cleaning!] -- close to major bus routes on Santa Monica Blvd -"| \_\_truncated\_\_,..: 1 10582 12807 16324 9901 3080 18502 18503 18502 5724 ...  
## $ access : Factor w/ 18252 levels "","--- More Amenities - 60\" TV with premium cable & Amazon fire stick - High speed internet - A/C - 2 car priva"| \_\_truncated\_\_,..: 1 10577 8682 1 4582 1 16139 16156 17986 3990 ...  
## $ interaction : Factor w/ 19206 levels "","- A comprehensive House guide to show how to operate the home. We are on call at all times to assist you with your stay!",..: 1 3731 6190 1 5149 1 3636 3637 3636 1 ...  
## $ house\_rules : Factor w/ 21353 levels "","---Check-in/Check-out: Check-in is at 2 p.m. or anytime thereafter provided you let us know the time. Ring the"| \_\_truncated\_\_,..: 7585 9301 9776 6394 1 11170 2421 2421 2421 5408 ...  
## $ thumbnail\_url : logi NA NA NA NA NA NA ...  
## $ medium\_url : logi NA NA NA NA NA NA ...  
## $ picture\_url : Factor w/ 36591 levels "https://a0.muscache.com/4ea/air/v2//pictures/0007dab7-df39-47ed-9eb6-6b839f58d52c.jpg?t=r:w1200-h720-sfit,e:fjpg-c85",..: 10887 29868 10470 3438 6290 12906 18960 34937 6668 11253 ...  
## $ xl\_picture\_url : logi NA NA NA NA NA NA ...  
## $ host\_id : int 521 767 3008 3041 3207 3415 9171 9171 9171 11619 ...  
## $ host\_url : Factor w/ 21996 levels "https://www.airbnb.com/users/show/10000147",..: 16760 19803 11874 12046 12741 13581 21255 21255 21255 1338 ...  
## $ host\_name : Factor w/ 7957 levels "","(Ana)","(Email hidden by Airbnb)",..: 5706 5019 1384 7786 924 5390 6393 6393 6393 6408 ...  
## $ host\_since : Factor w/ 3566 levels "","2008-06-27",..: 2 3 6 7 8 9 19 19 19 22 ...  
## $ host\_location : Factor w/ 924 levels ""," California, United States",..: 706 115 462 734 74 462 462 462 462 462 ...  
## $ host\_about : Factor w/ 13047 levels "","'Pocahontas' at heart. Nature and the wind are my guides. My dream is to someday create a food forest. I create"| \_\_truncated\_\_,..: 11361 11439 12948 7640 1971 10068 12362 12362 12362 6874 ...  
## $ host\_response\_time : Factor w/ 6 levels "","a few days or more",..: 4 4 5 6 3 4 6 6 6 6 ...  
## $ host\_response\_rate : Factor w/ 64 levels "","0%","10%",..: 4 31 4 4 64 27 4 4 4 4 ...  
## $ host\_acceptance\_rate : Factor w/ 99 levels "","0%","10%",..: 2 27 93 70 99 29 98 98 98 93 ...  
## $ host\_is\_superhost : Factor w/ 3 levels "","f","t": 2 2 3 2 2 2 3 3 3 2 ...  
## $ host\_thumbnail\_url : Factor w/ 21917 levels "","https://a0.muscache.com/defaults/user\_pic-50x50.png?v=3",..: 21010 21497 14365 19715 9552 20054 10458 10458 10458 14702 ...  
## $ host\_picture\_url : Factor w/ 21917 levels "","https://a0.muscache.com/defaults/user\_pic-225x225.png?v=3",..: 21010 21497 14365 19715 9552 20054 10458 10458 10458 14702 ...  
## $ host\_neighbourhood : Factor w/ 456 levels "","Å pinut","Adams Point",..: 94 54 159 346 34 193 98 98 98 455 ...  
## $ host\_listings\_count : int 1 1 2 2 1 6 8 8 8 15 ...  
## $ host\_total\_listings\_count : int 1 1 2 2 1 6 8 8 8 15 ...  
## $ host\_verifications : Factor w/ 491 levels "['email', 'facebook', 'reviews', 'jumio', 'government\_id', 'work\_email']",..: 101 280 101 295 64 278 116 116 116 289 ...  
## $ host\_has\_profile\_pic : Factor w/ 3 levels "","f","t": 3 3 3 3 3 3 3 3 3 3 ...  
## $ host\_identity\_verified : Factor w/ 3 levels "","f","t": 3 3 3 2 3 3 2 2 2 3 ...  
## $ street : Factor w/ 431 levels " Los Angeles, CA, United States",..: 70 44 179 311 34 179 179 179 179 427 ...  
## $ neighbourhood : Factor w/ 165 levels "","Alhambra",..: 31 21 60 119 16 13 33 33 33 165 ...  
## $ neighbourhood\_cleansed : Factor w/ 264 levels "Acton","Adams-Normandie",..: 54 32 102 194 23 104 57 57 57 264 ...  
## $ neighbourhood\_group\_cleansed : Factor w/ 3 levels "City of Los Angeles",..: 2 2 1 2 2 1 1 1 1 1 ...  
## $ city : Factor w/ 404 levels ""," Los Angeles",..: 67 41 157 292 33 157 157 157 157 399 ...  
## $ state : Factor w/ 11 levels "","åŠ å\210©ç¦\217å°¼äºš",..: 8 8 8 8 8 8 8 8 8 8 ...  
## $ zipcode : Factor w/ 330 levels "","0000","10001",..: 81 236 53 117 138 53 67 67 67 219 ...  
## $ market : Factor w/ 38 levels "","California - Los Angeles - Beach Cities and South Bay",..: 28 28 28 28 28 28 28 28 28 28 ...  
## $ smart\_location : Factor w/ 431 levels " Los Angeles, CA",..: 70 44 179 312 34 179 179 179 179 427 ...  
## $ country\_code : Factor w/ 1 level "US": 1 1 1 1 1 1 1 1 1 1 ...  
## $ country : Factor w/ 1 level "United States": 1 1 1 1 1 1 1 1 1 1 ...  
## $ latitude : num 34 34.2 34.1 34 33.9 ...  
## $ longitude : num -118 -118 -118 -118 -118 ...  
## $ is\_location\_exact : Factor w/ 2 levels "f","t": 2 2 2 2 2 2 2 2 2 2 ...  
## $ property\_type : Factor w/ 46 levels "Aparthotel","Apartment",..: 16 26 2 2 2 22 39 23 26 7 ...  
## $ room\_type : Factor w/ 4 levels "Entire home/apt",..: 1 1 3 3 1 1 3 3 1 1 ...  
## $ accommodates : int 6 6 1 1 2 2 2 3 5 4 ...  
## $ bathrooms : num 2 1 1.5 1 1 1 1 1 1 1 ...  
## $ bedrooms : int 2 3 1 1 1 1 1 1 2 1 ...  
## $ beds : int 3 3 1 1 1 2 1 1 2 1 ...  
## $ bed\_type : Factor w/ 6 levels "","Airbed","Couch",..: 6 6 6 5 6 6 6 2 6 6 ...  
## $ amenities : Factor w/ 35004 levels "{\"Air conditioning\",\"Fire extinguisher\",Essentials,Shampoo,Hangers}",..: 2309 1106 589 1482 2830 7690 13971 1156 1334 2236 ...  
## $ square\_feet : int NA NA NA NA NA NA 64 400 NA NA ...  
## $ price : Factor w/ 871 levels "$0.00","$1,000.00",..: 135 188 777 174 787 161 762 112 420 804 ...  
## $ weekly\_price : Factor w/ 611 levels "","$1,000.00",..: 581 1 314 538 314 529 293 1 1 1 ...  
## $ monthly\_price : Factor w/ 668 levels "","$1,000.00",..: 310 1 657 145 62 258 1 1 423 1 ...  
## $ security\_deposit : Factor w/ 223 levels "","$0.00","$1,000.00",..: 174 2 164 1 36 103 36 61 88 61 ...  
## $ cleaning\_fee : Factor w/ 319 levels "","$0.00","$1,000.00",..: 115 8 300 8 283 253 120 230 8 120 ...  
## $ guests\_included : int 3 6 1 1 1 1 1 2 2 2 ...  
## $ extra\_people : Factor w/ 100 levels "$0.00","$10.00",..: 35 1 1 1 35 95 14 14 14 35 ...  
## $ minimum\_nights : int 30 2 30 1 2 3 30 30 1 5 ...  
## $ maximum\_nights : int 730 14 366 180 730 730 1125 1125 90 30 ...  
## $ minimum\_minimum\_nights : int 30 2 1 1 2 3 1 30 1 5 ...  
## $ maximum\_minimum\_nights : int 30 2 30 1 2 3 30 30 5 5 ...  
## $ minimum\_maximum\_nights : int 730 14 1125 180 730 730 1125 1125 1125 1125 ...  
## $ maximum\_maximum\_nights : int 730 14 1125 180 730 730 1125 1125 1125 1125 ...  
## $ minimum\_nights\_avg\_ntm : num 30 2 28.8 1 2 3 29.9 30 2.3 5 ...  
## $ maximum\_nights\_avg\_ntm : num 730 14 1125 180 730 ...  
## $ calendar\_updated : Factor w/ 91 levels "1 week ago","10 months ago",..: 13 77 26 26 16 2 90 12 14 40 ...  
## $ has\_availability : Factor w/ 1 level "t": 1 1 1 1 1 1 1 1 1 1 ...  
## $ availability\_30 : int 0 0 30 30 0 0 0 16 14 30 ...  
## $ availability\_60 : int 0 0 32 60 0 12 12 19 38 47 ...  
## $ availability\_90 : int 0 1 32 90 0 42 42 28 61 47 ...  
## $ availability\_365 : int 14 73 281 365 0 317 249 230 136 47 ...  
## $ calendar\_last\_scraped : Factor w/ 4 levels "2020-04-14","2020-04-15",..: 2 2 1 1 1 2 1 1 1 2 ...  
## $ number\_of\_reviews : int 2 8 24 21 0 23 309 228 126 25 ...  
## $ number\_of\_reviews\_ltm : int 0 2 8 3 0 0 69 73 48 3 ...  
## $ first\_review : Factor w/ 2850 levels "","2009-05-26",..: 100 1451 735 76 1 506 3 6 70 4 ...  
## $ last\_review : Factor w/ 1680 levels "","2010-03-28",..: 348 1501 1651 1570 1 1150 1647 1643 1650 1656 ...  
## $ review\_scores\_rating : int 80 97 97 94 NA 81 96 95 92 88 ...  
## $ review\_scores\_accuracy : int 10 10 10 9 NA 8 10 9 10 8 ...  
## $ review\_scores\_cleanliness : int 10 10 10 9 NA 8 10 10 10 8 ...  
## $ review\_scores\_checkin : int 6 10 10 9 NA 8 10 10 10 9 ...  
## $ review\_scores\_communication : int 8 10 10 9 NA 9 10 10 10 9 ...  
## $ review\_scores\_location : int 10 10 10 10 NA 9 10 9 10 9 ...  
## $ review\_scores\_value : int 8 10 10 9 NA 8 9 9 9 9 ...  
## $ requires\_license : Factor w/ 2 levels "f","t": 1 1 2 2 1 2 2 2 2 2 ...  
## $ license : Factor w/ 5538 levels "","#HSR19-002081",..: 1 1 1 275 1 1 1997 1997 1997 1 ...  
## $ jurisdiction\_names : Factor w/ 12 levels "","{\"Arkansas State\"}",..: 4 1 3 9 1 3 3 3 3 3 ...  
## $ instant\_bookable : Factor w/ 2 levels "f","t": 1 2 2 1 1 1 2 2 2 2 ...  
## $ is\_business\_travel\_ready : Factor w/ 1 level "f": 1 1 1 1 1 1 1 1 1 1 ...  
## $ cancellation\_policy : Factor w/ 9 levels "flexible","luxury\_moderate",..: 7 1 7 7 7 7 5 5 5 7 ...  
## [list output truncated]

Removing Redundant and not relevant variables for analysis e.g.(Repeated variables that represent the same thing)

data$listing\_url<-NULL # Not useful for analysis knowing the URL  
data$scrape\_id<-NULL # Not useful for analysis knowing the scrape ID  
data$experiences\_offered<-NULL # There is only one value it is none, since theres are all living spaces no experiences offered  
data$thumbnail\_url<-NULL #URL Links not useful for analysis and most are NA values  
data$medium\_url<-NULL #URL Links not useful for analysis and most are NA values  
data$picture\_url<-NULL #URL Links not useful for analysis  
data$xl\_picture\_url<-NULL #URL Links not useful for analysis and most are NA values  
data$thumbnail\_url<-NULL #URL Links not useful for analysis  
data$medium\_url<-NULL #URL Links not useful for analysis  
data$picture\_url<-NULL #URL Links not useful for analysis  
data$xl\_picture\_url<-NULL #URL Links not useful for analysis  
data$host\_url<-NULL #URL Links not useful for analysis  
data$host\_thumbnail\_url<-NULL #URL Links not useful for analysis  
data$host\_picture\_url<-NULL #URL Links not useful for analysis  
data$host\_name<-NULL #Already have ID , not need two have both   
data$country\_code<-NULL # We already know it's in the US and in LA metro area  
data$country<-NULL# We already know it's in the US  
data$state<-NULL #We already know it's in CA since it's in LA metro area  
data$host\_neighbourhood<-NULL # The location of the host maybe not be useful  
data$host\_location<-NULL  
data$host\_has\_profile\_pic<-NULL  
data$neighbourhood<-NULL #There is already a cleansed version of the neighbourhood, so this should be more accurate to go off of  
data$is\_location\_exact<- NULL # I believe that using the general location of the long and lat shuold be sufficient for analysis  
data$square\_feet<-NULL #Although, I think square feet is important to the problem at hand, there is just too many NA values in the dataset 37443 NA values in this dataset making it more than 90% of the dataset  
  
#These are redundant numbers that are already shown by minimum\_nights and maximum\_nights column   
data$maximum\_maximum\_nights<-NULL  
data$maximum\_minimum\_nights<-NULL  
data$maximum\_nights\_avg\_ntm<-NULL  
data$minimum\_maximum\_nights<-NULL  
data$minimum\_minimum\_nights<-NULL  
data$minimum\_nights\_avg\_ntm<-NULL  
  
  
  
  
data$market<-NULL # Already shown by City/Neighbourhod,it's going to be in LA metropolitan area,thus redundant information  
data$smart\_location<-NULL # Already shown by City/Neighbourhood  
data$host\_listings\_count<-NULL # Doubled, there is already a total listings count  
  
  
data$jurisdiction\_names<-NULL #We already know that it is within the LA metro area  
data$number\_of\_reviews\_ltm<-NULL # Not really useful to know the amount last month, more interested in total  
data$calculated\_host\_listings\_count<-NULL #Repeated total listing counts for each host  
  
data$license<-NULL # License number/ID not important for the analysis  
data$is\_business\_travel\_ready<-NULL #When checking the structure of the dataset, only one factor and it's all false

Fixing the Data types of variables

#These should be a character data type  
data$name<-as.character(data$name)  
data$summary<-as.character(data$summary)  
data$space<-as.character(data$space)  
data$description<-as.character(data$description)  
data$neighborhood\_overview<-as.character(data$neighborhood\_overview)  
data$notes<-as.character(data$notes)  
data$transit<-as.character(data$transit)  
data$access<-as.character(data$access)  
data$interaction<-as.character(data$interaction)  
data$house\_rules<-as.character(data$house\_rules)  
data$host\_since<-as.Date(data$host\_since)  
data$host\_about<-as.character(data$host\_about)  
  
#Was not numeric  
data$host\_response\_rate<-gsub('[%]','',data$host\_response\_rate)  
data$host\_response\_rate<-as.numeric(data$host\_response\_rate)

## Warning: NAs introduced by coercion

data$host\_acceptance\_rate<-gsub('[%]','',data$host\_acceptance\_rate)  
data$host\_acceptance\_rate<-as.numeric(data$host\_acceptance\_rate)

## Warning: NAs introduced by coercion

#Prices was not numeric  
data$price<-gsub('[$]','',data$price)  
data$price<-as.numeric(data$price)

## Warning: NAs introduced by coercion

data$weekly\_price<-gsub('[$]','',data$weekly\_price)  
data$weekly\_price<-as.numeric(data$weekly\_price)

## Warning: NAs introduced by coercion

data$monthly\_price<-gsub('[$]','',data$monthly\_price)  
data$monthly\_price<-as.numeric(data$monthly\_price)

## Warning: NAs introduced by coercion

data$security\_deposit<-gsub('[$]','',data$security\_deposit)  
data$security\_deposit<-as.numeric(data$security\_deposit)

## Warning: NAs introduced by coercion

data$cleaning\_fee<-gsub('[$]','',data$cleaning\_fee)  
data$cleaning\_fee<-as.numeric(data$cleaning\_fee)

## Warning: NAs introduced by coercion

data$extra\_people<-gsub('[$]','',data$extra\_people)  
data$extra\_people<-as.numeric(data$extra\_people)  
  
#After looking closely at the weekly price and monthly price , the amount don't actually checkout if you multiply the per night  
#By 7 and there are many missing NA values for them as well.  
  
length(which(is.na(data$monthly\_price)==TRUE))

## [1] 37512

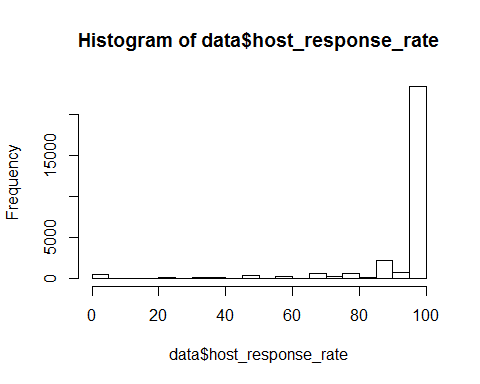
length(which(is.na(data$weekly\_price)==TRUE))

## [1] 35238

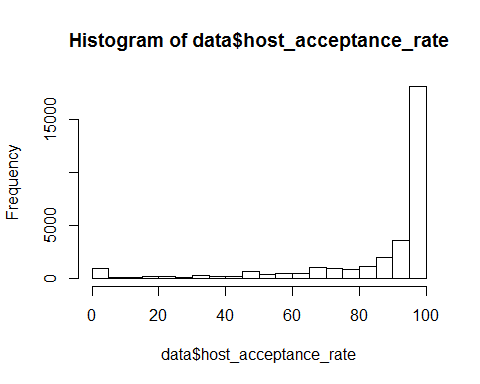
data$weekly\_price<-NULL  
data$monthly\_price<-NULL  
#Better to remove the weekly/monthly prices due to the number of missing values, moreover AirBnb prices per night anyways  
  
  
#Changing dates to datatype  
data$last\_scraped<-as.Date(data$last\_scraped)  
data$calendar\_last\_scraped<-as.Date(data$calendar\_last\_scraped)  
data$first\_review<-as.Date(data$first\_review)  
data$last\_review<-as.Date(data$last\_review)  
  
  
#Cleaning amenities  
  
data$amenities<-as.character(data$amenities)  
data$amenities<-tolower(data$amenities) #to ensure when using grepl it is all lowercase  
  
  
  
#Based on literature one of the most important attributes to pricing is parking and wifi  
  
data$wifi<-grepl("wifi",data$amenities)  
data$wifi<-as.factor(data$wifi)  
data$parking<-grepl("parking",data$amenities)  
data$parking<-as.factor(data$parking)  
  
#I also want to explore the shampoo amemitiy, as I belive that it can have an impact on price since as a traveller the shampoo provided for free can save space and money when travelling and carrying on luggage.  
  
  
data$shampoo<-grepl("shampoo",data$amenities)  
data$parking<-as.factor(data$parking)

Visualiztions of variables (histogram and boxplots)

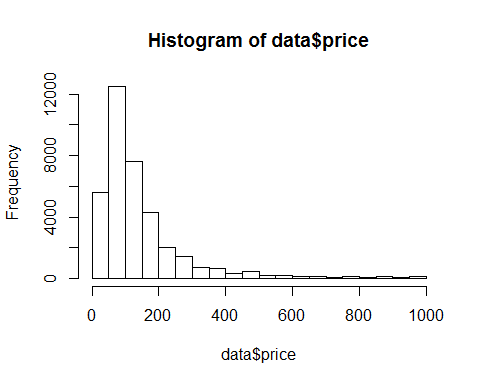
#Histograms  
hist(data$host\_response\_rate)



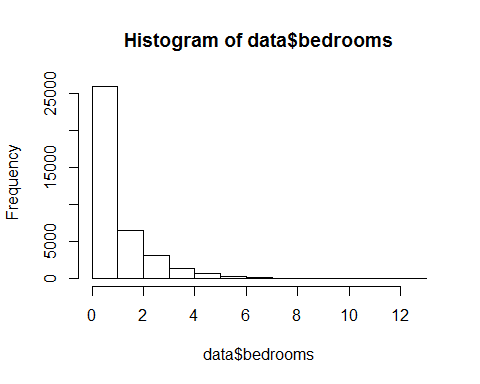
hist(data$host\_acceptance\_rate)



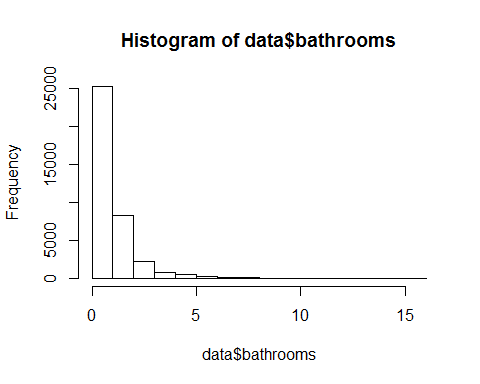
hist(data$price)



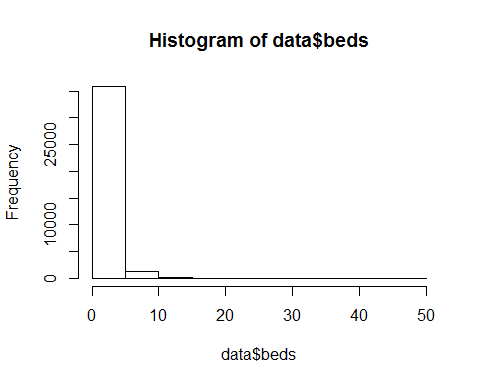
hist(data$bedrooms)



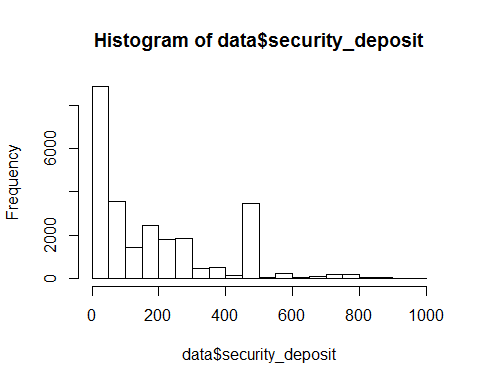
hist(data$bathrooms)



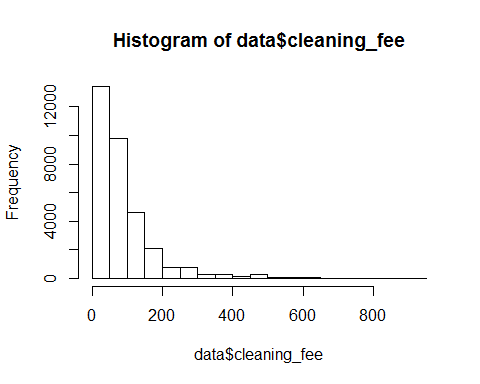
hist(data$beds)



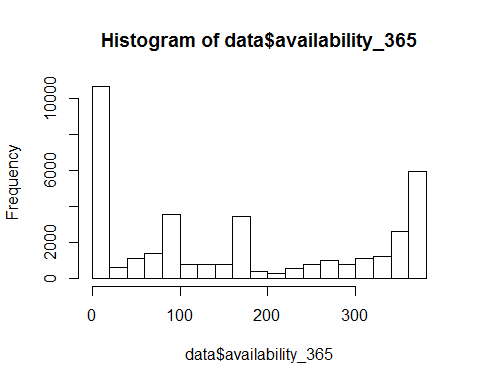
hist(data$security\_deposit)



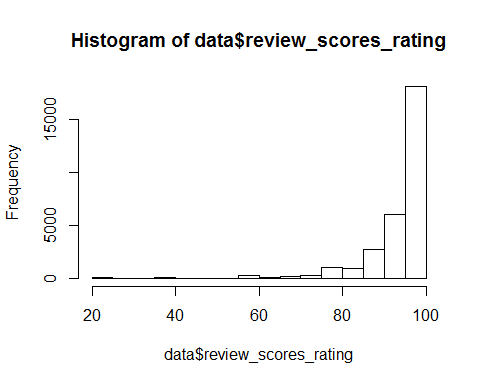
hist(data$cleaning\_fee)



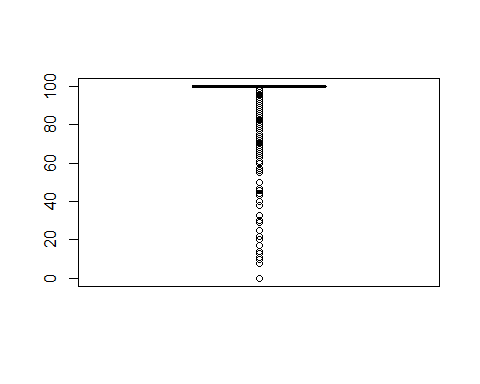
hist(data$availability\_365)



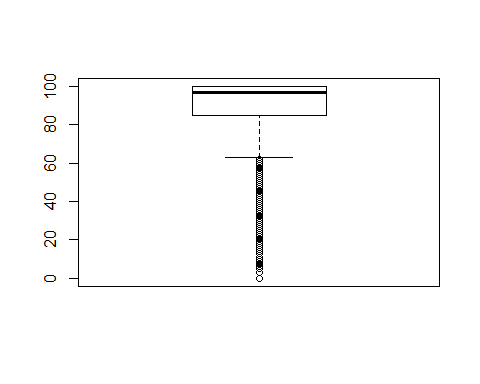
hist(data$review\_scores\_rating)



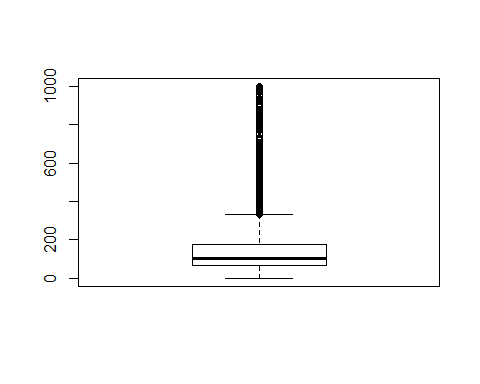
#Boxplots  
boxplot(data$host\_response\_rate)



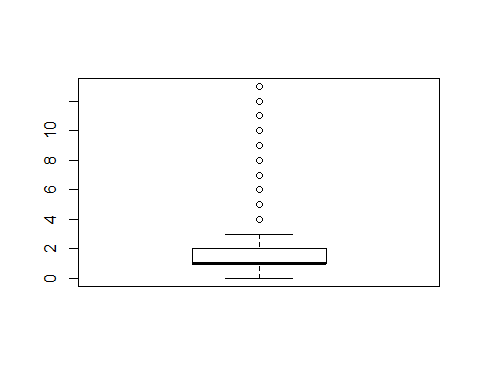
boxplot(data$host\_acceptance\_rate)



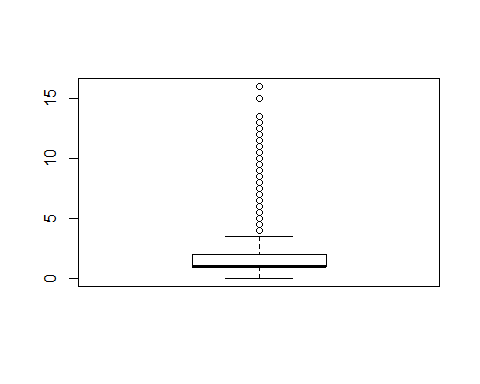
boxplot(data$price)



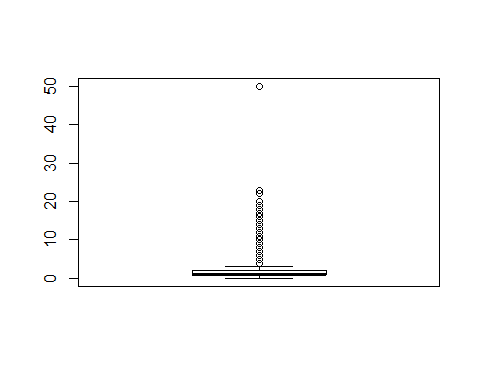
boxplot(data$bedrooms)



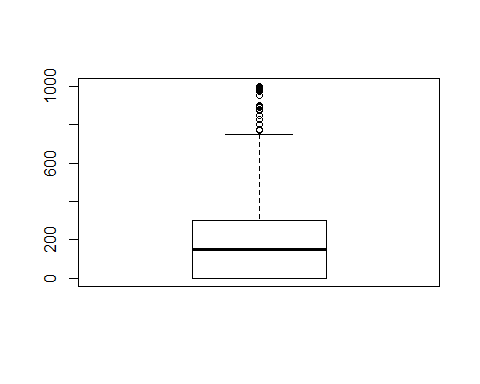
boxplot(data$bathrooms)



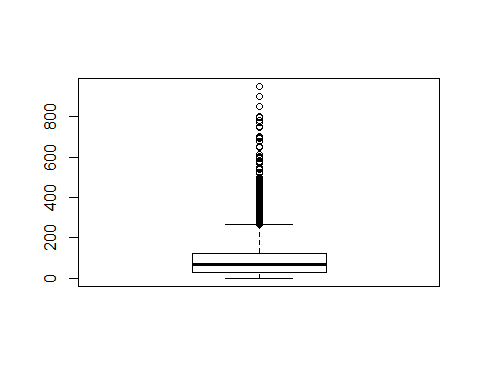
boxplot(data$beds)



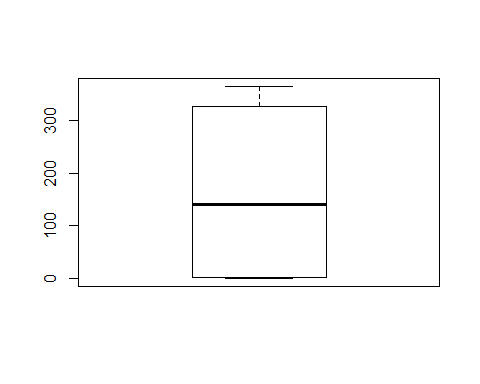
boxplot(data$security\_deposit)



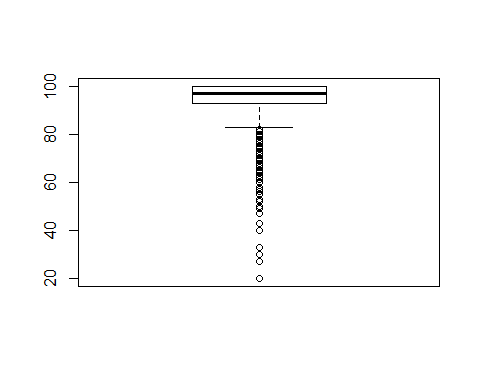
boxplot(data$cleaning\_fee)



boxplot(data$availability\_365)



boxplot(data$review\_scores\_rating)



Dealing with the outliers in the dataset

#Decided to replace the outlier values with the median values, if I used mean instead extreme outliers could possibly affect the mean  
  
boxplot.stats(data$price)

## $stats  
## [1] 0 69 105 175 334  
##   
## $n  
## [1] 36702  
##   
## $conf  
## [1] 104.1258 105.8742  
##   
## $out  
## [1] 395 450 900 399 600 395 350 550 340 369 418 550 515 699 595 500 695  
## [18] 361 375 450 750 450 350 525 575 350 335 550 350 550 585 375 399 400  
## [35] 350 450 400 425 500 400 590 899 610 450 489 500 695 349 499 450 750  
## [52] 350 700 350 500 375 395 565 459 340 490 430 374 850 510 449 900 359  
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## [2669] 46 60 50 33 33 50 33 50 43 0 0 0 51 7 6 6 36 56 0 8 25 19 33  
## [2692] 50 56 19 0 38 50 54 56 33 42 59 50 50 43 60 50 56 38 33 31 50 25 42  
## [2715] 0 50 5 5 50 50 29 50 51 0 50 50 0 0 40 50 61 60 53 48 50 50 50  
## [2738] 50 50 44 33 0 8 59 33 50 50 33 0 48 41 53 43 48 38 23 7 50 52 29  
## [2761] 60 60 33 50 38 0 48 50 0 39 50 47 59 59 59 17 0 25 41 54 50 50 50  
## [2784] 50 50 50 57 17 17 33 33 15 51 59 13 34 59 55 20 50 34 34 46 43 34 59  
## [2807] 34 58 23 57 33 33 33 47 7 60 0 0 0 56 56 33 46 17 0 51 0 50 59  
## [2830] 59 50 14 25 0 57 29 25 41 7 33 60 13 11 50 55 43 0 48 0 33 40 34  
## [2853] 32 29 29 17 29 29 33 18 55 55 56 51 0 0 60 50 50 50 33 0 0 0 7  
## [2876] 33 40 25 55 61 51 58 0 57 50 50 35 35 50 55 38 33 0 33 33 29 29 29  
## [2899] 50 33 7 40 29 38 34 34 55 60 33 33 0 54 60 0 57 50 33 60 57 0 33  
## [2922] 0 34 50 61 0 23 50 51 52 61 53 50 18 50 50 25 29 33 40 25 0 50 7  
## [2945] 50 33 25 17 50 51 40 25 51 50 61 44 50 48 48 48 44 32 50 36 0 29 56  
## [2968] 17 55 50 50 50 33 21 48 51 61 48 50 0 60 46 53 25 50 29 50 50 50 25  
## [2991] 20 59 0 50 50 47 53 53 55 51 51 40 0 48 33 54 0 51 61 50 50 0 0  
## [3014] 0 11 62 7 52 38 20 50 29 48 50 40 19 55 53 7 7 40 53 48 40 0 62  
## [3037] 17 45 50 33 48 42 43 50 60 60 48 0 50 52 42 42 50 62 50 0 0 33 47  
## [3060] 55 42 48 56 57 60 9 42 42 57 17 53 51 39 40 50 44 0 0 0 44 44 50  
## [3083] 33 60 48 50 25 55 54 33 55 50 0 29 50 50 60 50 27 0 40 56 50 45 45  
## [3106] 40 45 48 25 25 25 60 25 33 9 47 54 35 25 50 55 48 50 60 58 50 21 57  
## [3129] 0 0 50 33 50 57 60 50 47 0 50 0 46 48 43 61 33 36 0 50 33 50 62  
## [3152] 56 51 54 53 0 13 60 50 50 57 0 60 0 44 0 62 0 62 57 0 0 33 34  
## [3175] 15 15 44 40 20 0 0 55 50 50 7 52 46 44 50 50 46 56 33 16 0 57 0  
## [3198] 62 33 42 17 51 17 0 0 50 60 40 60 57 14 0 50 44 44 18 50 13 52 50  
## [3221] 0 0 57 60 0 52 50 61 56 50 33 44 25 51 50 50 51 51 62 0 46 53 42  
## [3244] 60 43 33 33 51 25 18 50 0 0 16 44 50 52 50 37 50 0 33 25 56 0 0  
## [3267] 59 40 43 44 56 0 56 0 52 29 51 50 7 33 33 50 50 0 50 53 25 20 29  
## [3290] 47 0 56 29 60 60 33 36 61 50 0 53 53 33 53 61 0 0 0 7 43 0 20  
## [3313] 56 25 48 59 59 59 59 59 50 59 59 59 59 59 59 59 59 50 20 40 0 25 31  
## [3336] 48 50 50 0 25 50 0 33 54 45 40 33 40 57 50 50 45 45 45 45 45 45 45  
## [3359] 45 50 0 0 55 51 0 45 45 45 45 0 0 0 57 56 0 37 40 0 46 46 40  
## [3382] 56 40 50 47 60 60 60 48 0 60 0 55 60 0 33 61 47 33 29 55 50 33 55  
## [3405] 55 55 55 55 55 27 13 33 60 62 31 33 55 50 57 50 29 53 50 54 54 31 44  
## [3428] 61 33 0 33 44 30 50 62 7 33 0 55 0 59 59 59 59 59 50 33 61 60 57  
## [3451] 50 50 25 22 43 50 33 42 50 33 38 50 20 0 43 33 33 51 33 33 33 33 47  
## [3474] 25 0 50 50 50 50 50 53 24 50 0 33 49 33 33 33 38 33 33 33 50 0 62  
## [3497] 33 29 43 57 58 61 50 50 33 40 20 0 53 29 50 0 0 58 33 50 40 43 0  
## [3520] 33 51 25 41 40 44 50 39 33 40 57 44 53 60 50 50 50 53 0 60 60 51 20  
## [3543] 9 0 14 59 50 59 42 36 48 50 50 50 51 13 20 0 50 0 50 0 44 50 47  
## [3566] 0 44 25 50 0 44 48 36 7 50 50 50 33 33 46 56 0 58 50 36 55 50 47  
## [3589] 38 57 13 0 55 57 62 55 55 0 62 60 53 50 62 55 44 33 50 61 50 31 50  
## [3612] 0 0 50 50 50 50 25 25 0 33 62 0 50 0 60 33 62 25 56 7 0 46 56  
## [3635] 47 61 0 17 50 61 0 14 52 51 33 50 40 51 7 0 0 0 58 0 50 40 33  
## [3658] 59 0 50 0 50 50 53 50 50 21 50 61 61 40 50 44 53 62 50 48 25 0 44  
## [3681] 50 50 50 58 58 31 53 50 35 35 40 50 0 51 40 50 50 51 60 51 54 51 53  
## [3704] 50 31 50 25 50 0 50 43 48 0 44 55 55 0 58 47 0 30 0 20 46 46 59  
## [3727] 58 58 58 60 58 0 61 50 25 0 0 50 0 0 50 17 0 42 58 50 33 29 0  
## [3750] 29 29 29 29 29 60 55 20 29 40 25 51 29 0 0 29 29 29 29 29 29 29 50  
## [3773] 50 0 42 33 46 0 44 40 0 59 0 16 62 62 62 56 0 45 59 0 52 0 0  
## [3796] 25 58 33 51 55 51 59 45 45 59 59 60 59 59 59 50 0 59 59 50 59 59 59  
## [3819] 59 56 56 56 56 56 56 56 56 56 56 56 56 59 59 59 59 59 59 59 0 33 59  
## [3842] 33 0 0

data$host\_acceptance\_rate[which(data$host\_acceptance\_rate<63)]<-median(data$host\_acceptance\_rate,na.rm=TRUE)   
  
boxplot.stats(data$bedrooms)

## $stats  
## [1] 0 1 1 2 3  
##   
## $n  
## [1] 37625  
##   
## $conf  
## [1] 0.9918545 1.0081455  
##   
## $out  
## [1] 4 4 5 5 5 4 7 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4  
## [24] 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 6 4 5 5 4  
## [47] 4 4 4 4 5 4 5 4 4 5 4 4 4 4 4 5 5 4 5 5 4 5 5  
## [70] 4 5 4 4 4 5 4 7 6 4 4 4 5 5 4 4 4 5 4 5 4 6 7  
## [93] 4 5 4 5 5 4 5 5 4 4 4 7 4 4 6 5 6 7 6 4 4 4 4  
## [116] 5 4 4 8 7 5 4 4 4 5 4 4 4 5 5 4 4 6 4 4 7 4 4  
## [139] 4 4 5 4 5 6 4 4 4 4 4 4 4 4 4 4 4 4 4 5 4 4 4  
## [162] 7 4 4 5 5 4 4 4 5 4 4 5 4 4 5 4 4 4 5 8 8 5 4  
## [185] 5 4 4 5 5 4 4 4 4 6 5 5 4 6 5 4 4 5 4 4 4 4 5  
## [208] 4 4 5 5 4 5 4 4 6 4 4 4 6 6 4 5 4 5 4 7 4 4 5  
## [231] 5 4 4 4 7 4 5 4 4 4 4 5 4 5 4 6 4 5 4 4 5 4 4  
## [254] 4 7 4 5 5 5 4 4 4 4 5 5 4 5 5 4 4 4 4 5 5 4 5  
## [277] 4 6 8 4 4 4 5 4 6 6 5 4 4 4 4 5 4 4 4 4 4 4 4  
## [300] 5 4 4 4 4 4 4 5 4 5 4 6 4 4 4 5 4 4 4 4 4 5 4  
## [323] 4 4 4 4 4 4 4 4 4 6 5 4 5 4 6 4 4 4 4 4 4 4 5  
## [346] 4 6 5 5 4 7 4 5 4 4 6 4 4 4 7 4 4 5 4 6 6 4 4  
## [369] 4 4 6 5 4 4 5 4 4 4 5 9 5 4 4 4 4 5 7 6 4 4 7  
## [392] 5 4 4 5 5 4 4 4 4 5 5 5 4 7 4 4 4 5 4 4 4 4 4  
## [415] 4 6 4 5 4 4 4 7 4 4 4 4 6 6 4 5 4 5 4 4 5 4 4  
## [438] 4 4 4 6 4 5 4 5 4 4 5 5 4 4 6 4 5 5 5 4 5 4 4  
## [461] 4 4 6 4 11 4 4 6 4 4 5 4 6 6 5 4 4 4 4 4 4 5 5  
## [484] 5 5 4 4 4 4 7 5 5 5 4 4 5 7 5 4 5 5 4 4 4 6 6  
## [507] 9 7 7 5 4 4 4 4 4 4 4 5 4 4 4 4 4 7 5 4 4 4 5  
## [530] 5 4 4 4 6 4 4 4 4 4 6 4 4 4 4 5 4 5 4 5 4 5 5  
## [553] 5 6 4 4 4 5 5 5 4 5 4 5 9 4 4 4 4 4 4 4 4 4 4  
## [576] 5 4 5 4 4 4 5 4 4 4 4 4 5 6 4 6 5 5 4 4 4 4 5  
## [599] 4 5 4 4 4 4 5 5 4 6 6 4 4 4 6 6 4 4 4 5 5 4 4  
## [622] 4 5 4 9 4 5 4 5 4 6 4 5 4 4 5 6 4 4 4 4 4 5 4  
## [645] 4 4 4 4 6 4 5 5 8 7 5 5 4 5 5 5 6 5 4 9 4 6 6  
## [668] 6 4 5 4 7 5 4 4 4 6 5 4 4 4 4 4 6 5 6 5 6 4 5  
## [691] 5 4 4 4 5 4 4 6 4 4 4 4 4 8 4 10 5 5 5 4 5 7 4  
## [714] 4 4 4 5 6 5 4 4 4 4 4 5 4 4 5 5 4 4 4 4 4 5 4  
## [737] 4 4 5 4 4 4 4 4 7 7 5 4 4 4 4 5 4 5 7 4 4 5 5  
## [760] 4 5 5 4 4 4 5 4 4 5 6 4 4 4 4 4 4 4 5 6 5 5 4  
## [783] 4 4 5 5 5 6 4 4 4 4 4 4 4 4 4 5 6 4 6 5 5 7 4  
## [806] 4 4 4 4 7 4 5 4 4 4 4 5 4 6 4 6 4 6 5 12 4 4 5  
## [829] 4 4 4 4 5 4 4 5 5 5 5 5 4 4 7 7 4 4 5 5 5 4 4  
## [852] 4 5 4 5 6 8 4 6 4 4 4 4 4 4 7 4 4 4 5 4 5 5 4  
## [875] 6 4 5 5 4 4 4 11 5 5 7 4 4 4 5 4 4 4 5 4 4 5 4  
## [898] 6 5 5 4 4 4 7 6 6 4 6 5 4 4 4 4 8 4 6 4 5 4 4  
## [921] 4 5 4 5 6 5 5 4 4 4 5 4 4 4 5 5 4 6 6 5 4 4 5  
## [944] 4 4 7 10 4 6 5 4 8 9 4 5 4 5 4 4 4 5 5 4 4 6 7  
## [967] 8 7 5 4 9 5 6 5 4 4 5 4 4 4 4 5 5 5 4 4 6 7 7  
## [990] 4 4 7 4 4 5 4 5 4 4 5 5 5 4 4 5 5 4 5 4 5 4 5  
## [1013] 4 5 4 5 7 7 4 4 11 4 6 5 4 4 4 5 10 6 4 5 4 4 6  
## [1036] 4 5 4 5 5 4 4 4 5 7 7 5 7 5 4 5 4 6 4 4 4 4 4  
## [1059] 7 5 6 4 4 4 4 4 4 4 4 5 4 4 5 4 7 4 4 5 4 4 4  
## [1082] 5 4 4 4 4 4 4 4 4 4 4 4 4 5 5 4 4 6 5 4 4 6 5  
## [1105] 5 6 4 4 6 6 4 6 4 4 4 7 4 4 5 5 8 6 5 5 4 4 5  
## [1128] 4 6 5 4 5 7 4 8 4 4 4 4 5 7 5 4 5 4 4 4 4 4 4  
## [1151] 4 4 4 5 4 4 5 4 4 4 4 4 5 5 10 5 6 5 5 4 4 5 7  
## [1174] 4 4 4 5 4 4 4 5 4 4 4 4 5 4 5 4 4 4 6 4 4 4 5  
## [1197] 5 4 4 4 5 4 5 5 5 5 4 4 5 4 4 6 7 4 5 4 6 4 4  
## [1220] 4 5 4 7 4 4 5 5 4 5 6 5 6 5 5 5 6 5 7 6 5 5 5  
## [1243] 5 4 4 6 5 5 5 4 4 5 6 4 4 5 4 4 6 6 4 5 4 4 5  
## [1266] 6 4 4 4 5 5 4 4 4 5 4 6 8 5 5 7 5 5 4 4 4 4 4  
## [1289] 5 4 6 9 4 4 4 5 4 7 5 4 5 4 4 5 4 4 4 4 5 5 4  
## [1312] 5 4 4 4 4 5 4 4 5 4 5 5 4 4 5 4 4 9 4 4 5 5 6  
## [1335] 4 4 4 4 4 4 4 5 4 4 4 4 7 6 4 5 6 10 4 4 4 4 4  
## [1358] 5 4 4 4 4 4 11 6 4 4 4 4 4 4 5 4 5 4 5 4 4 4 4  
## [1381] 5 4 4 5 4 7 4 4 6 5 4 4 4 4 4 8 4 4 4 5 4 4 4  
## [1404] 4 5 10 4 4 4 5 4 5 4 5 4 4 4 5 4 5 4 4 7 4 4 4  
## [1427] 4 5 5 4 4 5 4 4 4 8 8 8 4 4 4 6 5 6 4 4 4 4 4  
## [1450] 6 5 4 4 6 5 6 4 5 4 4 4 4 4 4 4 4 5 4 5 4 4 5  
## [1473] 5 4 5 4 5 4 8 7 5 4 5 6 4 7 4 5 4 6 12 4 5 5 4  
## [1496] 4 6 7 4 4 5 4 4 4 4 4 12 4 4 4 5 6 6 5 5 5 4 4  
## [1519] 4 9 4 4 4 4 4 4 4 4 4 5 4 4 4 5 5 5 4 5 5 5 7  
## [1542] 5 4 5 4 4 4 4 6 4 4 4 5 7 4 4 5 5 4 4 5 8 4 5  
## [1565] 4 4 4 4 6 5 4 5 5 4 6 6 4 8 5 4 4 4 7 4 4 7 6  
## [1588] 6 4 4 4 4 5 4 5 5 5 4 8 4 4 4 6 4 4 4 4 4 8 5  
## [1611] 7 4 5 4 5 4 4 4 4 4 4 4 4 5 4 6 4 4 4 5 4 6 4  
## [1634] 4 4 5 4 8 5 4 4 5 4 4 5 4 5 4 6 4 4 5 4 4 5 4  
## [1657] 5 4 4 4 5 6 4 4 4 4 4 4 5 5 4 4 4 4 7 4 4 4 4  
## [1680] 4 4 4 5 4 5 4 4 5 6 4 4 4 5 4 7 4 5 5 4 4 5 5  
## [1703] 4 7 4 5 4 4 5 4 5 6 4 4 4 5 5 8 6 5 4 6 4 5 4  
## [1726] 4 4 4 4 5 5 6 4 5 4 4 5 4 4 5 5 4 5 5 4 4 4 4  
## [1749] 5 4 6 5 4 4 5 5 4 5 5 10 4 7 6 4 4 4 4 6 5 5 5  
## [1772] 4 5 6 4 7 5 4 4 5 4 5 4 6 6 4 5 5 4 5 4 4 4 4  
## [1795] 4 5 4 4 4 9 4 4 6 4 5 4 5 6 7 8 4 4 4 4 4 4 4  
## [1818] 4 4 4 4 5 4 4 4 4 4 6 5 5 4 4 4 4 4 4 5 4 5 5  
## [1841] 4 4 4 6 4 4 4 4 4 5 5 4 5 4 4 4 4 4 4 4 4 5 4  
## [1864] 4 11 5 4 4 5 5 4 4 5 5 6 4 4 4 4 7 4 4 5 6 4 4  
## [1887] 4 6 5 5 5 5 4 4 4 5 4 6 4 5 5 4 5 5 5 4 4 4 4  
## [1910] 4 5 4 4 6 4 4 4 5 5 4 4 4 5 4 8 4 5 5 8 4 4 4  
## [1933] 7 4 5 5 4 5 5 5 8 4 4 6 5 6 5 5 5 6 4 5 5 5 4  
## [1956] 4 4 4 4 4 4 4 4 6 5 4 4 5 5 5 5 4 5 4 7 4 4 5  
## [1979] 5 4 4 5 4 4 4 4 4 4 4 4 5 5 4 5 4 4 4 4 6 5 4  
## [2002] 4 5 4 4 4 6 4 4 4 4 4 4 4 4 4 6 4 6 4 4 5 4 4  
## [2025] 6 4 5 5 4 4 8 4 7 5 4 4 5 4 5 4 6 6 4 9 5 4 4  
## [2048] 4 4 6 6 6 6 6 4 4 4 6 6 5 4 4 4 5 4 4 5 4 4 4  
## [2071] 4 4 5 4 5 4 6 4 7 4 5 7 4 4 4 6 4 5 5 4 5 4 4  
## [2094] 5 4 4 4 4 4 5 4 4 4 4 4 8 5 5 4 4 4 4 4 6 4 4  
## [2117] 7 5 5 4 4 4 4 5 8 4 6 4 5 4 5 6 4 4 6 5 4 5 5  
## [2140] 4 4 5 4 4 4 6 5 4 4 6 4 5 5 5 4 4 4 5 4 6 5 5  
## [2163] 4 4 4 4 4 4 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4  
## [2186] 4 5 4 4 4 5 4 4 6 5 4 6 5 5 5 4 4 4 4 5 6 5 4  
## [2209] 4 5 6 4 6 5 4 7 4 5 5 4 6 7 5 4 6 6 5 4 5 10 4  
## [2232] 4 4 4 7 5 4 4 5 4 7 5 13 4 4 4 5 4 4 4 4 4 5 6  
## [2255] 4 4 9 5 4 4 8 5 5 6 4 7 4 5 4 5 5 4 6 4 5 4 5  
## [2278] 6 6 4 4 4 7 5 6 4 5 5 7

data$bedrooms[which(data$bedrooms>3)]<-median(data$bedrooms,na.rm=TRUE)#3 is the upper whisker, no values that are below the lower whisker  
  
boxplot.stats(data$bathrooms)

## $stats  
## [1] 0.0 1.0 1.0 2.0 3.5  
##   
## $n  
## [1] 37691  
##   
## $conf  
## [1] 0.9918616 1.0081384  
##   
## $out  
## [1] 11.0 4.0 11.0 11.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0  
## [14] 8.0 8.0 4.5 4.0 8.0 8.0 8.0 7.5 4.5 4.5 5.0 4.0 4.0  
## [27] 5.5 8.0 11.0 11.0 11.0 5.0 11.0 11.0 11.0 11.0 11.0 11.0 11.0  
## [40] 11.0 11.0 4.5 4.0 4.0 4.0 4.5 11.0 5.0 4.5 4.5 4.5 4.0  
## [53] 4.0 4.0 8.0 8.0 8.0 8.0 11.5 4.5 4.5 4.0 4.5 6.5 4.5  
## [66] 4.5 6.5 7.5 5.5 4.5 4.5 5.0 4.0 4.5 8.0 4.0 4.5 5.5  
## [79] 11.0 11.0 4.0 5.0 4.5 8.0 4.0 4.0 5.0 7.5 5.0 4.5 5.0  
## [92] 4.5 4.5 4.0 6.0 7.5 5.5 5.5 4.5 4.0 4.0 4.0 4.0 6.5  
## [105] 6.0 4.0 5.0 4.0 7.0 7.5 5.5 4.5 7.0 4.0 4.0 4.5 8.0  
## [118] 4.0 4.5 5.0 4.0 4.0 4.5 5.5 4.5 6.0 4.5 5.0 4.5 13.5  
## [131] 6.5 4.0 7.5 5.5 4.0 8.0 8.0 5.5 5.5 4.0 8.0 8.0 8.0  
## [144] 8.0 8.0 8.0 8.0 8.0 4.5 4.5 7.5 5.0 4.5 4.0 5.0 4.0  
## [157] 8.0 4.0 4.0 4.0 4.0 5.5 5.0 7.5 5.5 6.5 7.5 5.0 4.0  
## [170] 5.5 4.0 4.0 6.0 4.0 4.0 4.0 4.5 4.5 8.0 5.5 5.5 5.0  
## [183] 4.0 4.0 4.0 4.0 8.0 4.0 4.5 4.0 4.0 7.0 4.0 6.0 5.5  
## [196] 7.5 5.0 4.0 4.0 6.0 4.0 8.0 8.0 8.0 8.0 8.0 4.0 4.5  
## [209] 5.0 5.5 5.5 4.0 7.5 4.5 4.0 4.5 4.5 4.0 5.0 4.0 8.0  
## [222] 4.0 5.0 6.0 5.5 5.5 5.5 8.0 6.5 4.0 5.0 4.5 5.5 6.0  
## [235] 5.5 4.0 4.0 6.0 4.5 6.5 5.0 4.0 4.0 11.0 4.0 4.5 4.0  
## [248] 5.5 4.5 9.0 5.0 4.0 4.0 4.0 4.0 5.5 5.0 4.5 4.0 10.0  
## [261] 4.0 5.5 7.0 5.0 4.5 5.0 4.0 6.0 4.5 9.0 5.5 8.0 4.5  
## [274] 4.5 5.5 5.5 7.0 4.0 4.5 4.5 4.0 4.0 4.5 4.0 6.0 4.5  
## [287] 4.0 6.0 6.5 5.5 5.5 5.0 4.5 4.0 8.5 4.5 4.0 5.0 5.0  
## [300] 5.5 4.5 4.5 5.5 5.5 9.0 4.0 5.0 4.5 4.0 5.5 5.0 7.0  
## [313] 5.0 4.0 4.5 6.5 4.5 4.0 4.5 5.0 8.0 4.0 4.0 7.0 4.5  
## [326] 4.5 4.0 6.0 6.0 11.0 4.5 5.5 4.0 8.5 4.5 4.5 5.5 10.5  
## [339] 7.5 5.5 5.5 4.5 5.5 5.5 4.5 6.5 6.5 4.5 4.5 12.5 4.5  
## [352] 7.5 6.5 8.5 5.0 6.0 5.0 6.5 6.0 4.5 4.5 4.5 4.5 10.0  
## [365] 4.5 7.5 5.5 7.0 6.0 4.0 9.5 6.0 4.0 9.5 5.0 5.0 7.5  
## [378] 4.5 6.5 5.5 4.0 4.0 4.0 4.5 4.5 10.0 5.0 4.5 5.0 4.0  
## [391] 5.0 4.5 11.0 4.0 4.5 8.5 6.0 4.0 4.5 4.0 5.0 4.0 4.5  
## [404] 4.0 4.5 5.0 4.0 4.5 6.5 4.5 8.0 7.5 6.5 4.5 4.0 6.5  
## [417] 4.0 5.5 4.5 5.0 9.0 4.0 4.0 5.5 5.5 4.5 4.5 8.0 7.0  
## [430] 4.0 5.0 4.0 4.5 4.5 6.0 5.5 5.5 5.0 4.0 4.0 4.5 5.0  
## [443] 5.0 5.0 4.0 4.5 4.5 4.5 7.5 6.0 4.0 5.5 5.5 4.0 7.0  
## [456] 4.5 4.0 15.0 5.5 7.5 4.5 4.5 4.5 6.5 5.0 5.5 6.0 4.0  
## [469] 5.5 4.5 6.5 7.0 4.5 8.0 8.5 5.5 4.0 5.5 4.5 4.5 8.5  
## [482] 6.0 5.5 4.5 6.0 5.0 7.0 5.0 4.0 5.5 5.5 5.5 4.5 4.5  
## [495] 4.5 5.5 5.5 4.0 4.5 8.0 4.0 8.0 10.0 4.0 4.5 4.0 4.0  
## [508] 5.0 8.5 8.5 11.5 5.5 6.0 6.5 5.0 5.0 5.0 5.0 5.0 5.0  
## [521] 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 4.0 4.0 4.5 7.0 7.5  
## [534] 6.5 4.0 7.0 6.5 4.5 4.5 4.0 4.5 4.5 4.0 4.0 6.0 7.0  
## [547] 4.5 5.5 5.5 4.5 9.0 4.0 7.0 5.0 6.0 4.0 4.5 9.0 9.0  
## [560] 5.5 4.0 4.0 4.5 5.5 4.0 5.0 4.0 5.0 4.0 5.0 5.0 5.0  
## [573] 4.0 8.0 6.5 4.5 4.0 7.5 6.5 4.5 4.0 5.0 6.5 4.0 5.0  
## [586] 4.5 4.5 4.0 5.0 4.0 4.5 4.0 4.0 4.0 4.0 11.0 4.5 5.0  
## [599] 6.0 5.5 5.0 4.5 4.0 4.0 4.5 4.0 4.0 4.0 7.5 4.0 6.0  
## [612] 5.0 4.5 10.5 4.0 4.5 4.0 5.0 4.0 4.0 4.5 4.5 4.5 4.0  
## [625] 5.5 5.5 4.5 5.5 7.0 11.0 4.0 5.0 5.0 4.5 4.5 4.5 4.5  
## [638] 4.0 5.5 4.5 4.5 4.5 4.0 10.0 5.0 5.0 5.5 6.5 4.0 5.0  
## [651] 4.0 5.5 5.0 4.0 4.0 4.0 4.5 5.5 4.0 4.5 4.0 7.5 4.5  
## [664] 4.5 4.0 4.0 4.5 4.5 4.5 4.0 7.5 5.0 4.0 5.0 6.5 5.0  
## [677] 4.0 4.0 5.0 6.5 5.5 4.5 5.5 5.5 4.0 5.0 5.0 5.0 10.0  
## [690] 5.0 7.0 6.0 8.0 4.5 6.0 4.0 5.0 4.5 5.5 5.5 4.5 4.5  
## [703] 4.0 5.5 5.5 7.5 5.0 7.0 5.5 4.0 4.0 5.5 7.0 4.0 5.5  
## [716] 6.0 8.0 5.0 5.0 4.5 4.5 4.0 4.5 4.0 8.0 4.5 4.5 4.5  
## [729] 4.5 4.0 7.5 4.0 10.0 5.5 7.0 4.5 4.0 4.5 4.0 5.5 4.0  
## [742] 5.0 4.0 5.0 4.5 5.0 6.5 6.5 4.5 5.5 6.0 6.0 6.0 6.0  
## [755] 6.0 6.0 6.0 6.0 6.0 5.5 6.0 4.5 4.5 4.0 4.5 5.5 4.0  
## [768] 4.5 4.5 7.0 4.5 4.0 5.5 11.5 4.5 5.0 5.5 4.0 5.0 4.0  
## [781] 4.0 4.5 4.0 5.5 4.0 6.5 4.0 4.5 10.0 4.5 4.0 13.0 6.0  
## [794] 4.0 5.0 16.0 4.5 4.5 4.0 4.5 4.0 5.0 4.0 4.0 4.0 4.0  
## [807] 4.5 5.5 9.0 4.0 5.5 5.5 4.5 5.0 9.5 9.5 9.5 4.0 4.0  
## [820] 4.0 4.0 6.0 4.5 4.0 7.0 5.5 4.0 6.5 6.5 4.5 4.0 5.5  
## [833] 5.5 5.0 4.5 4.5 4.5 4.5 5.0 4.0 8.0 6.5 4.0 4.0 4.0  
## [846] 4.0 4.0 4.0 4.0 6.0 7.0 4.0 5.0 4.5 4.5 9.0 13.0 4.5  
## [859] 4.5 4.0 4.5 4.5 5.0 5.0 4.0 4.5 4.0 4.0 13.0 4.0 6.0  
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## [885] 5.5 4.0 4.0 4.5 8.5 5.5 4.5 4.5 4.0 4.0 8.5 4.0 5.5  
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data$bathrooms[which(data$bathrooms>3.5)]<-median(data$bathrooms,na.rm=TRUE)#3.5 is the upper whisker, no values that are below the lower whisker  
  
boxplot.stats(data$beds)

## $stats  
## [1] 0 1 1 2 3  
##   
## $n  
## [1] 37340  
##   
## $conf  
## [1] 0.9918235 1.0081765  
##   
## $out  
## [1] 5 4 5 5 5 5 4 5 5 9 5 5 6 4 4 4 4 4 7 4 4 4 4  
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## [4670] 6 6 4 9 4 4 5 4 4 4 4 6 6 6 6 6 6 4 4 6 5 6 6  
## [4693] 6 5 4 4 6 6 4 6 4 5 8 4 5 4 4 4 5 4 4 4 5 6 5  
## [4716] 5 4 5 6 4 6 6 5 6 7 4 10 4 9 5 4 4 6 5 4 4 6 5  
## [4739] 5 5 6 5 7 4 4 4 4 5 6 4 4 4 5 5 5 5 6 4 7 4 5  
## [4762] 8 4 4 4 8 4 6 5 10 8 8 6 4 5 4 4 6 4 4 6 9 5 6  
## [4785] 5 5 5 4 4 4 4 4 4 5 8 4 4 7 5 5 6 4 7 4 7 4 6  
## [4808] 4 4 4 4 5 4 5 5 4 6 4 4 4 4 5 7 5 4 4 6 4 8 6  
## [4831] 5 7 5 5 4 5 5 9 5 4 5 6 4 5 5 4 7 4 4 4 4 4 4  
## [4854] 4 5 4 7 8 4 5 4 6 4 5 5 4 8 6 6 4 5 4 4 5 4 4  
## [4877] 6 7 4 4 4 5 5 5 4 5 5 6 5 7 4 5 5 4 5 5 4 10 4  
## [4900] 6 4 4 8 5 4 5 4 4 6 4 5 4 4 4 4 4 4 6 5 4 4 9  
## [4923] 6 4 5 4 16 12 4 6 5 4 5 4 4 4 6 5 4 5 5 4 7 22 5  
## [4946] 5 5 4 4 4 4 5 4 4 4 5 6 6 6 6 4 4 6 4 6 6 8 6  
## [4969] 4 4 8 9 4 10 9 4 9 4 4 9 6 4 4 4 9 6 4 5 4 5 5  
## [4992] 4 4 5 10 4 5 5 4 4 4 6 7 6 4 7 5 4 4 5 4 6 4 4  
## [5015] 8 5 4 6 5 22 6 4 4 17 4 6 14 5 5 4 5 10 6 6 4 6 4  
## [5038] 4 5 5 5 7 4 4 4 6 4 4 6 5 5 5 4 6 4 4 9 6 4 5  
## [5061] 10 5 5 5 4 4 6 5 7 9 5 5 4 5 7 7 6 4 4 4 5 4 5  
## [5084] 6 6 4 8 4 4 4 12 4 5 6 4 4 10 6 5 4 7

data$beds[which(data$beds>3)]<-median(data$beds,na.rm=TRUE) #3 is the upper whisker, no values that are below the lower whisker  
  
boxplot.stats(data$security\_deposit)

## $stats  
## [1] 0 0 150 300 750  
##   
## $n  
## [1] 25265  
##   
## $conf  
## [1] 147.0179 152.9821  
##   
## $out  
## [1] 950 800 850 799 800 800 900 800 995 800 800 800 800 800 800 900 800  
## [18] 900 800 825 800 800 800 800 800 800 800 800 800 800 900 800 800 800  
## [35] 800 989 900 800 777 800 800 999 800 800 800 800 890 800 800 800 900  
## [52] 850 900 900 950 800 900 800 800 800 800 800 800 800 800 800 800 800  
## [69] 800 850 800 900 950 800 900 800 800 800 800 800 800 800 800 800 950  
## [86] 800 800 800 900 800 800 800 850 800 800 850 800 800 800 800 800 800  
## [103] 800 800 800 800 800 800 800 800 900 800 800 800 800 900 800 800 800  
## [120] 850 800 850 995 800 800 950 800 900 899 800 850 900 950 850 800 800  
## [137] 800 985 800 800 850 800 800 800 800 900 950 950 800 800 800 900 800  
## [154] 800 800 800 999 999 950 800 850 800 850 970 800 800 999 800 980 900  
## [171] 800 800 800 800 900 800 900 900 900 950 900 900 850 950 800 850 900  
## [188] 800 800 800 800 800 900 800 800 800 800 800 900 800 850 800 800 800  
## [205] 874 900 800 800 900 900 900 880 900 895 875 850 800 800 950 800 800  
## [222] 800 800 800 850 950 800 850 800 800 990 990 800 800 900 800 770 800  
## [239] 875 850 800 900 800 800 799 800 800 900 800 800 800 800

data$security\_deposit[which(data$security\_deposit>750)]<-median(data$security\_deposit,na.rm=TRUE) # 750 is the upper whisker, no values that are below the lower whisker  
  
boxplot.stats(data$cleaning\_fee)

## $stats  
## [1] 0 30 70 125 265  
##   
## $n  
## [1] 32715  
##   
## $conf  
## [1] 69.17014 70.82986  
##   
## $out  
## [1] 400 275 300 300 300 400 300 450 500 500 300 300 450 500 300 500 300  
## [18] 420 275 350 275 275 450 300 299 333 360 540 540 420 420 275 350 400  
## [35] 300 480 333 320 500 420 327 650 300 651 333 275 350 300 399 368 475  
## [52] 300 350 300 950 500 651 360 550 500 471 300 485 300 300 300 350 300  
## [69] 300 300 500 300 600 300 300 500 295 400 350 350 500 325 285 500 300  
## [86] 350 500 300 399 333 300 500 500 340 350 290 350 333 350 400 350 300  
## [103] 300 300 275 350 300 300 350 650 295 300 350 350 300 300 300 300 500  
## [120] 275 399 300 500 400 300 500 350 300 285 300 349 275 350 350 675 350  
## [137] 295 300 350 325 300 500 450 300 400 285 300 500 300 500 450 400 300  
## [154] 300 325 395 500 495 350 300 395 599 500 300 500 380 350 375 500 350  
## [171] 350 340 550 500 350 350 300 500 550 500 500 500 898 291 500 400 350  
## [188] 300 350 450 300 500 275 300 650 275 300 500 450 300 300 300 450 300  
## [205] 320 500 275 275 350 275 300 300 300 295 350 350 300 300 750 300 350  
## [222] 300 575 375 300 300 300 500 300 425 350 350 310 300 300 285 595 350  
## [239] 300 575 400 300 300 275 500 300 300 350 300 275 400 400 400 290 350  
## [256] 850 310 310 300 350 500 500 285 299 275 345 375 350 500 600 300 320  
## [273] 300 300 400 300 500 450 375 350 375 300 350 350 300 350 275 425 400  
## [290] 300 299 375 375 500 350 350 350 300 500 300 350 280 295 500 650 300  
## [307] 350 500 350 500 290 500 300 300 500 500 400 750 300 350 650 395 400  
## [324] 400 500 600 300 850 500 400 300 275 300 269 450 300 395 550 750 300  
## [341] 300 300 599 310 399 300 360 269 300 750 650 420 390 350 750 275 280  
## [358] 489 750 500 550 300 300 350 650 350 350 495 400 475 450 600 350 595  
## [375] 300 300 310 500 500 350 750 500 320 280 300 400 400 500 460 350 500  
## [392] 500 400 365 400 300 300 350 395 500 300 300 500 450 500 379 500 400  
## [409] 600 395 300 300 300 600 500 500 353 275 300 350 275 400 899 699 500  
## [426] 500 300 400 350 300 495 300 500 300 300 300 325 450 495 300 275 350  
## [443] 850 269 500 399 500 395 375 400 500 500 300 595 400 550 550 359 350  
## [460] 390 390 300 269 300 395 350 350 450 400 300 350 300 500 350 400 300  
## [477] 310 350 300 350 300 300 300 450 269 350 300 288 275 350 495 350 300  
## [494] 350 750 750 400 300 750 300 350 350 385 350 300 350 299 288 350 779  
## [511] 300 300 500 288 299 300 375 500 395 350 395 300 400 500 280 300 350  
## [528] 295 300 288 288 400 650 350 269 269 300 395 288 288 300 500 525 300  
## [545] 400 380 330 300 350 400 390 400 300 300 300 350 648 300 400 500 400  
## [562] 385 380 300 380 550 430 500 300 750 350 300 500 350 350 500 333 783  
## [579] 333 333 333 333 400 395 600 500 350 300 300 300 280 400 750 404 500  
## [596] 380 385 330 595 300 300 304 303 350 650 300 300 500 299 650 500 500  
## [613] 750 500 300 603 350 350 500 495 425 300 340 288 350 300 295 300 385  
## [630] 300 275 410 300 410 410 410 500 375 400 399 369 400 350 520 400 300  
## [647] 300 300 300 550 300 380 500 385 385 380 380 380 380 380 380 380 380  
## [664] 380 350 380 380 325 274 500 615 450 600 600 275 464 300 350 360 360  
## [681] 450 275 280 300 280 275 375 300 500 550 600 395 750 350 800 950 500  
## [698] 400 650 300 300 450 500 300 300 500 350 380 400 300 400 300 300 300  
## [715] 300 325 400 322 299 299 450 450 395 600 300 350 300 275 399 375 350  
## [732] 300 435 500 650 435 435 375 500 295 550 330 395 350 299 425 398 650  
## [749] 300 350 500 500 385 500 750 545 291 500 350 350 270 350 410 298 298  
## [766] 298 395 545 350 410 300 300 300 390 390 300 275 385 330 360 395 300  
## [783] 355 455 450 350 300 470 500 299 650 850 700 444 300 500 700 470 295  
## [800] 500 300 410 545 410 410 410 410 410 360 350 450 500 350 345 345 350  
## [817] 300 435 350 345 295 300 300 300 300 500 360 450 300 400 450 350 749  
## [834] 600 435 500 395 350 300 500 500 300 300 380 350 500 500 500 500 295  
## [851] 295 295 295 295 295 295 345 345 295 295 296 295 295 295 295 295 380  
## [868] 295 350 400 410 300 300 300 300 300 300 300 650 295 410 300 300 360  
## [885] 299 295 650 295 295 495 295 295 410 410 410 410 350 350 345 300 350  
## [902] 300 350 345 295 450 650 490 290 450 950 350 300 400 650 470 525 350  
## [919] 300 295 525 295 525 525 330 500 525 450 375 360 300 300 295 345 525  
## [936] 410 410 300 300 345 300 410 300 500 525 300 300 300 300 359 360 350  
## [953] 600 389 650 295 350 500 295 399 350 500 295 295 500 300 400 280 578  
## [970] 800 550 300 350 450 525 380 295 500 750 500 650 300 400 400 410 410  
## [987] 300 295 300 400 500 295 410 450 295 450 650 300 300 450 650 500 295  
## [1004] 300 360 500 269 389 500 295 499 400 300 300 300 300 300 300 410 489  
## [1021] 350 299 500 400 500 300 495 444 300 300 550 435 400 650 269 318 300  
## [1038] 410 410 300 500 300 410 500 300 300 410 470 385 300 295 300 300 385  
## [1055] 385 650 320 450 500 295 300 300 295 295 295 295 295 295 345 299 269  
## [1072] 400 360 499 345 300 500 600 295 300 400 364 399 600 500 300 300 345  
## [1089] 300 400 495 300 600 605 525 295 410 300 295 345 300 300 300 300 295  
## [1106] 295 410 410 300 300 410 275 325 435 400 295 400 500 545 385 300 300  
## [1123] 295 300 300 295 295 345 345 300 410 410 410 410 410 300 410 295 295  
## [1140] 350 300 300 300 300 269 275 380 300 345 295 500 300 300 500 380 450  
## [1157] 295 570 300 380 380 380 410 380 300 345 295 799 300 650 295 650 500  
## [1174] 300 300 600 300 400 450 400 300 475 300 290 290 290 375 350 295 295  
## [1191] 295 300 350 500 295 295 295 400 500 350 580 295 350 300 470 500 275  
## [1208] 300 295 295 425 450 550 295 295 295 295 300 295 399 500 600 650 399  
## [1225] 600 550 380 380 380 380 380 380 650 425 450 500 600 300 424 400 399  
## [1242] 570 300 360 375 300 345 500 295 575 400 400 295 295 295 400 350 350  
## [1259] 425 500 295 410 410 300 299 500 545 295 295 471 599 280 295 295 400  
## [1276] 295 295 300 500 300 384 345 295 300 295 490 350 300 300 500 614 295  
## [1293] 525 495 275 350 450 295 295 295 300 300 410 410 300 350 499 382 395  
## [1310] 540 540 295 400 350 500 500 345 350 500 600 500 410 295 295 275 300  
## [1327] 450 377 300 300 350 295 295 350 300 300 410 300 300 300 295 350 295  
## [1344] 400 350 269 350 300 365 300 410 300 300 400 350 350 300 333 279 350  
## [1361] 300 345 285 500 350 495 350 380 299 345 380 380 295 295 500 295 295  
## [1378] 350 365 575 600 395 300 300 400 350 500 799 350 500 300 410 410 295  
## [1395] 395 400 275 295 300 375 300 450 350 295 650 275 300 770 500 550 500  
## [1412] 500 500 300 295 400 295 399 299 650 410 300 600 500 500 284 700 400  
## [1429] 400 425 750 300 350 349 295 300 275 500 500 300 520 400 300 500 300  
## [1446] 500 395 450 350 295 410 410 300 500 550 350 350 550 275 410 400 285  
## [1463] 500 500 500 550 300 400 489 400 475 295 295 500 300 299 295 345 500  
## [1480] 350 500 295 300 300 425 410 410 410 500 300 380 410 500 300 410 300  
## [1497] 380 380 380 380 380 380 380 300 296 295 345 400 450 500 360 325 599  
## [1514] 379 299 399 295 345 295 345 295 345 300 350 550 400 300 300 300 300  
## [1531] 400 500 500 350 390 400 495 500 350 275 300 492 295 500 350 500 600  
## [1548] 300 350 495 280 350 300 450 295 300 295 345 275 289 500 410 410 600  
## [1565] 350 350 304 300 500 300 500 300 300 300 300 300 300 500 350 595 750  
## [1582] 800 299 750 350 350 300 300 300 275 650 280 325 325 296 295 295 295  
## [1599] 410 375 295 345 345 650 750 399 350 500 300 350 800 500 499 350 400  
## [1616] 491 425 550 500 295 350 300 350 350 450 300 300 400 380 599 350 500  
## [1633] 500 300 295 650 500 410 425 449 400 500 500 410 410 300 410 500 295  
## [1650] 300 500 350 300 350 599 380 275 350 269 400 540 350 500 500 500 400  
## [1667] 410 410 390 375 345 295 295 399 499 599 350 380 295 300 300 300 285  
## [1684] 380 350 295 500 300 410 295 295 295 750 390 400 400 299 499 499 395  
## [1701] 300 295 295 295 600 495 750 495 550 395 575 350 380 295 295 295 400  
## [1718] 450 480 295 295 295 495 399 300 300 295 500 380 380 380 380 380 380  
## [1735] 380 380 380 380 380 380 280 500 350 295 295 295 295 295 450 450 350  
## [1752] 500 275 295 295 295 500 300 350 270 300 500 300 410 300 399 300 350  
## [1769] 300 350 300 300 300 300 300 300 480 480 500 699 300 500 449 400 600  
## [1786] 295 296 295 295 295 295 295 295 295 295 800 345 500 425 300 399 399  
## [1803] 399 390 600 600 299 299 389 300 694 350 375 475 595 600 300 300 284  
## [1820] 300 444 295 295 295 295 295 275 444 390 300 300 300 600 300 400 399  
## [1837] 299 650 400 295 345 345 295 400 275 295 400 400 350 500 289 300 300  
## [1854] 350 350 350 650 410 300 299 299 299 299 498 350 410 410 300 595 375  
## [1871] 275 295 299 300 300 300 300 299 275 300 575 450 295 500 295 295 300  
## [1888] 275 360 400 295 691 550 550 300 300 300 300 500 400 350 350 300 400  
## [1905] 300 300 499 350 800 300 795 359 300 289 269 300 295 359 600 300 550  
## [1922] 650 395 395 500 500 450 500 290 450 500 450 499 450 550

data$cleaning\_fee[which(data$cleaning\_fee>265)]<-median(data$cleaning\_fee,na.rm=TRUE) # 265 is the upper whisker, no values that are below the lower whisker  
  
boxplot.stats(data$availability\_365) #No outliers

## $stats  
## [1] 0 1 141 327 365  
##   
## $n  
## [1] 37728  
##   
## $conf  
## [1] 138.3482 143.6518  
##   
## $out  
## integer(0)

boxplot.stats(data$review\_scores\_rating)

## $stats  
## [1] 83 93 97 100 100  
##   
## $n  
## [1] 29665  
##   
## $conf  
## [1] 96.93579 97.06421  
##   
## $out  
## [1] 80 81 78 80 81 80 67 82 82 70 80 81 81 70 76 82 80 77 80 72 75 82 78  
## [24] 81 77 80 60 78 82 80 80 78 80 82 82 82 82 77 79 40 77 64 73 82 82 82  
## [47] 80 60 60 82 69 80 70 75 82 80 80 73 82 75 82 20 80 20 80 80 80 82 77  
## [70] 80 80 82 80 64 60 80 80 80 80 60 76 71 80 77 80 80 80 30 80 60 75 73  
## [93] 70 80 80 81 80 76 80 80 80 80 80 72 81 80 80 20 65 70 80 60 80 70 80  
## [116] 80 80 80 80 60 73 80 80 81 80 82 80 81 80 80 78 60 80 60 80 76 80 80  
## [139] 80 60 73 80 20 80 80 70 60 60 81 20 80 82 40 78 81 60 80 50 60 75 20  
## [162] 80 40 80 80 80 80 71 82 78 75 80 60 68 80 70 82 79 79 80 80 20 80 70  
## [185] 80 80 80 80 80 80 75 80 82 80 73 80 70 73 60 73 20 72 40 60 70 80 71  
## [208] 53 71 40 82 75 80 80 20 73 80 82 60 80 80 80 75 80 81 80 80 76 80 80  
## [231] 80 80 80 80 80 73 73 60 60 78 80 80 80 80 80 75 60 60 80 60 72 80 80  
## [254] 80 80 80 80 20 80 80 80 75 70 80 70 76 20 80 60 80 78 73 80 60 80 80  
## [277] 80 80 80 70 60 40 60 30 80 60 80 80 81 40 80 80 80 80 80 80 80 80 40  
## [300] 70 80 75 73 70 60 40 60 82 80 80 81 60 80 76 77 82 77 82 81 81 82 50  
## [323] 67 82 60 80 75 75 20 80 80 80 73 80 80 60 80 67 80 20 60 80 82 80 77  
## [346] 60 81 80 80 76 80 20 80 80 66 80 75 80 77 81 60 68 80 80 60 80 60 80  
## [369] 70 80 80 20 70 73 56 20 20 80 80 82 80 80 80 80 79 80 80 72 80 79 76  
## [392] 80 80 50 78 68 80 78 82 80 40 80 73 80 80 60 60 80 20 80 73 80 80 80  
## [415] 75 78 60 81 80 80 81 73 80 80 70 80 80 80 80 50 70 20 80 80 60 80 75  
## [438] 70 60 81 81 80 58 80 78 60 76 80 20 76 80 82 80 82 80 80 65 20 80 80  
## [461] 72 80 80 72 82 80 70 75 55 80 65 80 80 80 78 75 80 81 40 50 80 20 80  
## [484] 80 80 71 80 81 76 20 73 75 75 80 77 82 60 80 80 73 80 76 76 80 80 78  
## [507] 80 80 74 20 80 80 60 60 81 73 60 20 79 80 77 80 60 80 82 76 80 80 40  
## [530] 40 80 40 60 80 80 60 80 80 47 80 80 20 40 80 80 80 76 60 80 80 65 80  
## [553] 73 67 79 82 80 75 80 75 81 78 20 81 80 80 80 82 80 60 80 75 80 76 60  
## [576] 30 78 20 80 60 80 78 82 78 81 80 76 82 20 70 66 80 80 80 80 75 78 60  
## [599] 20 80 80 74 80 82 20 80 73 80 82 80 80 80 78 76 80 80 60 80 27 73 69  
## [622] 64 80 80 80 80 82 80 80 60 73 70 63 75 60 78 82 60 20 73 60 80 80 40  
## [645] 70 79 82 60 80 78 80 80 20 82 80 80 73 76 70 70 73 80 80 80 60 80 80  
## [668] 80 80 81 76 69 66 20 82 76 80 81 60 80 80 60 40 80 73 82 80 80 75 80  
## [691] 80 77 70 40 80 60 74 73 77 50 60 82 70 80 80 53 80 80 80 70 20 20 78  
## [714] 80 20 80 80 80 82 80 80 60 82 80 81 20 55 80 74 60 77 60 77 70 80 80  
## [737] 80 82 56 73 70 68 40 60 79 80 81 77 80 80 73 70 80 82 81 60 80 73 82  
## [760] 80 82 73 81 40 20 73 77 80 80 67 80 77 73 77 60 73 80 80 60 80 80 70  
## [783] 20 80 76 60 82 80 77 76 60 82 60 70 80 60 40 82 76 82 82 40 33 82 80  
## [806] 74 64 60 79 82 82 20 77 76 70 77 80 77 74 82 81 40 75 82 30 60 76 80  
## [829] 60 71 79 80 78 80 70 64 82 69 80 80 73 69 82 82 78 81 82 20 80 80 60  
## [852] 80 71 50 80 80 80 60 73 80 80 60 60 72 80 80 74 75 80 20 72 60 80 20  
## [875] 70 20 82 80 80 80 80 60 81 75 79 80 80 70 77 79 80 60 82 80 20 50 78  
## [898] 80 80 80 80 80 80 79 70 60 71 80 78 79 80 20 78 20 20 70 80 79 78 76  
## [921] 70 80 80 80 80 80 82 82 81 81 78 77 77 80 20 80 80 73 70 80 61 75 80  
## [944] 60 20 80 80 80 80 71 80 80 73 60 80 80 80 20 81 82 20 60 80 70 76 78  
## [967] 74 71 60 70 69 80 70 60 70 80 78 81 80 72 60 76 70 80 80 80 72 77 60  
## [990] 20 60 76 80 82 47 68 68 68 60 77 77 60 73 80 70 77 70 80 80 60 60 82  
## [1013] 75 63 80 80 81 80 77 82 80 60 82 70 60 79 80 74 81 73 40 60 60 80 80  
## [1036] 80 73 80 40 73 82 60 40 70 73 60 78 80 80 60 70 81 73 80 80 70 80 80  
## [1059] 75 80 80 75 80 80 80 80 75 76 80 80 80 60 70 75 60 73 60 70 20 80 80  
## [1082] 80 80 76 77 60 63 80 68 80 78 80 80 79 82 80 77 73 82 55 60 70 73 80  
## [1105] 73 80 75 56 75 68 80 80 78 80 80 80 50 80 77 60 80 75 71 65 70 74 82  
## [1128] 70 81 70 76 80 75 80 77 75 80 82 80 64 70 76 80 73 79 70 80 70 81 60  
## [1151] 80 68 80 80 74 82 74 79 76 80 80 65 75 80 75 76 80 80 80 70 20 71 81  
## [1174] 80 81 80 80 81 75 82 77 68 20 80 60 76 82 63 60 80 75 60 57 80 80 78  
## [1197] 40 80 75 80 80 50 80 80 82 60 69 80 80 73 80 79 80 82 73 80 20 20 77  
## [1220] 50 73 81 80 80 80 78 80 74 80 60 82 80 60 80 70 80 70 82 20 20 73 80  
## [1243] 80 75 80 73 81 80 80 67 80 80 40 20 77 80 81 70 78 80 80 70 60 40 80  
## [1266] 80 73 60 73 73 20 80 67 78 62 75 81 80 73 80 80 72 80 60 60 80 80 80  
## [1289] 80 70 70 72 40 60 80 80 60 73 80 68 20 20 50 60 74 20 20 20 60 52 50  
## [1312] 80 60 20 75 50 80 74 80 60 71 20 80 60 80 60 53 82 60 75 40 80 65 76  
## [1335] 60 80 40 82 70 80 70 81 20 73 69 81 40 50 20 80 82 80 20 80 40 80 60  
## [1358] 82 20 75 80 40 80 76 75 73 60 78 71 80 60 60 73 65 77 80 78 80 80 79  
## [1381] 80 40 60 80 53 82 20 78 77 80 60 20 72 60 60 80 80 77 80 80 73 82 78  
## [1404] 60 80 20 77 79 80 56 60 80 80 76 20 74 80 80 80 80 60 80 71 82 73 80  
## [1427] 73 76 80 80 60 80 20 73 82 80 80 60 73 78 75 63 76 40 81 81 73 65 60  
## [1450] 70 43 76 70 80 78 73 73 80 77 78 72 80 80 80 73 80 77 80 78 73 60 60  
## [1473] 60 70 67 80 80 60 78 80 80 77 53 80 62 80 63 20 70 60 80 20 68 82 20  
## [1496] 80 60 76 80 60 70 70 80 71 70 75 73 60 77 62 73 72 20 80 80 80 81 73  
## [1519] 80 80 82 70 74 82 80 80 80 80 60 78 60 80 20 76 60 73 60 20 72 70 74  
## [1542] 70 40 50 55 40 75 81 75 50 20 20 80 20 80 20 80 70 79 80 40 80 80 80  
## [1565] 80 60 71 80 80 60 60 80 40 80 20 71 60 20 50 60 76 81 80 80 80 78 69  
## [1588] 80 60 69 70 80 80 60 60 80 70 20 73 75 60 80 78 72 80 20 80 73 72 20  
## [1611] 70 73 70 73 72 80 75 80 82 80 80 80 75 65 80 60 80 80 82 80 80 80 80  
## [1634] 82 60 77 20 40 60 80 80 77 82 80 80 77 77 73 20 73 40 80 73 65 70 80  
## [1657] 80 60 20 60 80 80 82 82 80 78 81 80 64 70 81 40 70 74 20 80 77 67 81  
## [1680] 80 60 60 60 80 82 80 50 60 80 80 81 80 60 69 80 80 80 60 78 64 82 81  
## [1703] 73 53 80 75 73 70 80 60 60 60 78 78 70 80 80 80 80 67 20 20 60 70 40  
## [1726] 80 75 80 80 73 77 80 20 80 80 80 40 80 73 60 80 62 80 60 73 76 80 69  
## [1749] 80 79 72 80 80 60 80 80 60 82 60 80 82 82 80 75 80 80 79 80 80 80 65  
## [1772] 65 60 80 80 50 78 20 80 20 80 70 20 60 60 60 60 73 80 82 80 80 20 67  
## [1795] 73 67 80 80 70 80 60 80 60 20 80 80 60 80 60 40 49 56 60 63 80 76 60  
## [1818] 60 80 82 80 73 40 80 71 60 65 77 80 78 77 80 76 60 60 80 80 70 60 76  
## [1841] 70 80 82 80 80 78 80 60 80 66 76 80 60 77 60 80 67 20 60 60 70 65 40  
## [1864] 60 80 80 80 78 60 73 80 80 80 80 63 76 80 80 73 82 82 75 40 80 70 73  
## [1887] 20 40 65 80 63 80 80 60 80 82 80 60 20 80 50 60 60 75 80 60 80 20 73  
## [1910] 73 80 82 80 67 80 75 80 20 60 77 80 80 67 80 80 40 52 80 60 73 30 67  
## [1933] 70 73 80 77 80 80 80 60 80 76 80 78 72 80 80 80 80 80 20 80 80 73 80  
## [1956] 60 60 66 75 70 76 80 40 70 75 78 80 73 60 74 65 65 73 67 80 60 80 80  
## [1979] 80 80 20 80 60 80 60 80 40 78 80 73 80 70 75 80 60 73 80 40 80 80 80  
## [2002] 80 80 80 80 80 20 80 80 73 80 75 20 70 80 80 60 82 71 40 80 80 60 80  
## [2025] 73 73 80 73 70 80 70 73 30 80 80 60 80 80 20 20 80 67 80 60 80 73 60  
## [2048] 60 53 40 73 80 60 80 60 50 80 76 80 80 60 73 60 80 50 80 70 20 60 80  
## [2071] 64 80 70 73 80 60 73 80 20 80 67 73 80 80 70 73 60 40 80 80 80 40 70  
## [2094] 40 60 73 20 60 80 80 80 80 73 60 80 60 60 60 20 80 20 20 80 20 40 60  
## [2117] 20 60 80 50 80 60 60 80 80 67 73 80 20 80 67 80 73 80 80 40 73 60 20  
## [2140] 20 60 80 20 40 60 60 70 60 60 80 40 60 20 40 80 80 60 40 50

data$review\_scores\_rating[which(data$review\_scores\_rating<83)]<-median(data$review\_scores\_rating,na.rm=TRUE) # 83 is the lower whisker, no values above the upper whisker

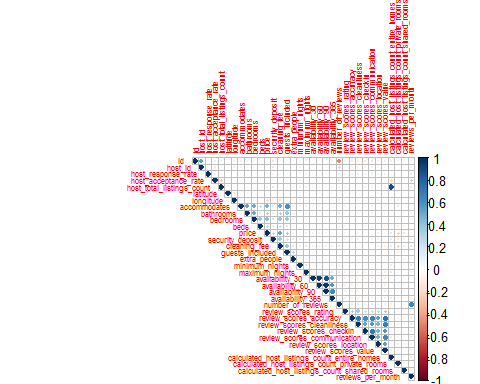
Correlation of the numerical attributes in the dataset

#First create an numerical attribute dataframe of the dataset  
#Then create a correlation matrix  
#Remove any highly correlated attributes to one another  
  
num\_cols\_only <- unlist(lapply(data,is.numeric)) #When you lapply is.numeric , it returns a list therefore you need to unlist to use it to make a numeric dataframe  
data\_numeric<-data[,num\_cols\_only]  
cor\_matrix<-cor(data\_numeric,use="complete.obs")  
library(corrplot)

## Warning: package 'corrplot' was built under R version 3.6.3

## corrplot 0.84 loaded

corrplot(cor\_matrix,type="upper",tl.cex = 0.5)



#Bedrooms and bathrooms is moderately postively correlated, we can remove bathrooms and keep bedrooms  
#Availability 365 is moderately postively correlated with the other availability values which makes sense  
#Accomadates number is moderately postively correlated with bedrooms,which makes sense as if you have more rooms you can accomodate more people

Dealing with NA values or missing values in the dataset

#Now that the outliers have been replaced, I will want to replace any NA values with the mean value  
#If there are records with missing values that are non numerical, I will remove that record if it is logical to do so  
  
data$price[which(is.na(data$price)==TRUE)]<-mean(data$price,na.rm=TRUE)  
data$bedrooms[which(is.na(data$bedrooms)==TRUE)]<-mean(data$bedrooms,na.rm=TRUE)  
data$bathrooms[which(is.na(data$bathrooms)==TRUE)]<-mean(data$bathrooms,na.rm=TRUE)  
data$beds[which(is.na(data$beds)==TRUE)]<-mean(data$beds,na.rm=TRUE)  
data$security\_deposit[which(is.na(data$security\_deposit)==TRUE)]<-mean(data$security\_deposit,na.rm=TRUE)  
data$review\_scores\_rating[which(is.na(data$review\_scores\_rating)==TRUE)]<-mean(data$review\_scores\_rating,na.rm=TRUE)  
data$review\_scores\_accuracy[which(is.na(data$review\_scores\_accuracy)==TRUE)]<-mean(data$review\_scores\_accuracy,na.rm=TRUE)  
data$review\_scores\_checkin[which(is.na(data$review\_scores\_checkin)==TRUE)]<-mean(data$review\_scores\_checkin,na.rm=TRUE)  
data$review\_scores\_cleanliness[which(is.na(data$review\_scores\_cleanliness)==TRUE)]<-mean(data$review\_scores\_cleanliness,na.rm=TRUE)  
data$review\_scores\_value[which(is.na(data$review\_scores\_value)==TRUE)]<-mean(data$review\_scores\_value,na.rm=TRUE)  
data$review\_scores\_location[which(is.na(data$review\_scores\_location)==TRUE)]<-mean(data$review\_scores\_location,na.rm=TRUE)  
data$review\_scores\_communication[which(is.na(data$review\_scores\_communication)==TRUE)]<-mean(data$review\_scores\_communication,na.rm=TRUE)  
data$cleaning\_fee[which(is.na(data$cleaning\_fee)==TRUE)]<-mean(data$cleaning\_fee,na.rm=TRUE)  
  
data<-data[which(!data$host\_is\_superhost==""),] # Only 3 values that were blank in the dataset, removed  
data<-data[which(!data$bed\_type==""),] #10 blank values removed  
data<-data[which(!data$host\_response\_time==""),] # Only 3 values that were blank in the dataset, which also happens to be the same rows of the superhost that were blank  
data<-data[which(!data$price==0),]#I also removed prices that were at 0, since it doesn't make sense for a listing to be at 0 for the context of the problem,since if it is 0 then that means it's free AirBnb.  
  
#After removing the blank values in the dataset, there was still blank factors in the str(data)  
str(data)

## 'data.frame': 37710 obs. of 73 variables:  
## $ id : int 109 344 2708 2732 2864 3021 5728 5729 5843 6033 ...  
## $ last\_scraped : Date, format: "2020-04-15" "2020-04-15" ...  
## $ name : chr "Amazing bright elegant condo park front \*UPGRADED\*" "Family perfect;Pool;Near Studios!" "Mirrored Mini-Suite with Fireplace - W. Hollywood" "Zen Life at the Beach" ...  
## $ summary : chr "\*\*\* Unit upgraded with new bamboo flooring, brand new Ultra HD 50\" Sony TV, new paint, new lighting, new mattr"| \_\_truncated\_\_ "This home is perfect for families; aspiring child actors w/parents; and friends vacationing for the summer or h"| \_\_truncated\_\_ "Our best memory foam pillows you'll ever sleep on. Handmade Amish wildflower soap. SoCal: beaches, Walk of Fa"| \_\_truncated\_\_ "" ...  
## $ space : chr "\*\*\* Unit upgraded with new bamboo flooring, brand new Ultra HD 50\" Sony TV, new paint, new lighting, new mattr"| \_\_truncated\_\_ "Cheerful & comfortable; near studios, amusement parks, downtown, beaches! Central and modern; private, conveni"| \_\_truncated\_\_ "Flickering fireplace. BlendtecÂ® Designer 625 Blender Bundle with Twister Jar MORE THAN JUST SMOOTHIES: From h"| \_\_truncated\_\_ "This is a beautiful three story townhouse that will enhance your Santa Monica experience. This airy, light fil"| \_\_truncated\_\_ ...  
## $ description : chr "\*\*\* Unit upgraded with new bamboo flooring, brand new Ultra HD 50\" Sony TV, new paint, new lighting, new mattr"| \_\_truncated\_\_ "This home is perfect for families; aspiring child actors w/parents; and friends vacationing for the summer or h"| \_\_truncated\_\_ "Our best memory foam pillows you'll ever sleep on. Handmade Amish wildflower soap. SoCal: beaches, Walk of Fa"| \_\_truncated\_\_ "This is a beautiful three story townhouse that will enhance your Santa Monica experience. This airy, light fil"| \_\_truncated\_\_ ...  
## $ neighborhood\_overview : chr "" "Quiet-yet-close to all the fun in LA! Hollywood, Universal Studios, beaches, great hikes and more are all minutes away." "We are minutes away from the Mentor Language Institute, Kings College, Musicians Institute, and many film schoo"| \_\_truncated\_\_ "This is the best part of Santa Monica. Quiet, calm, safe." ...  
## $ notes : chr "" "One dog may be on premises, friendly and cared for by caretaker. A great addition to stabilize kids-away-from-"| \_\_truncated\_\_ "BlendtecÂ® Designer 625 Blender Bundle with Twister Jar MORE THAN JUST SMOOTHIES: From hot soup to ice cream an"| \_\_truncated\_\_ "" ...  
## $ transit : chr "" "Short drive to subway and elevated trains running to major tourist spots in LA; freeways minutes away as well. "| \_\_truncated\_\_ "There are many buses; bus stops going in every direction are just around the corner. The subway is five minutes"| \_\_truncated\_\_ "Walking distance to all transportation: buses, train." ...  
## $ access : chr "" "Pool, patio and self-contained main house all accessible freely by guests. Garage, pool house and back caretak"| \_\_truncated\_\_ "Kitchen with new refrigerator, dishwasher, stove and oven with new plank floors. Jacuzzi and sundeck New gym wi"| \_\_truncated\_\_ "" ...  
## $ interaction : chr "" "Host and caretaker may be available throughout your stay to assist in troubleshooting with local information/am"| \_\_truncated\_\_ "I am friendly and available to help you with your needs even before you arrive. I am seldom seen as I am in and"| \_\_truncated\_\_ "" ...  
## $ house\_rules : chr "Camelot NEW RESIDENTSâ\200\231 GENERAL INFORMATION File: New Residents Info 1 Created on 12/13/05 Hello, a"| \_\_truncated\_\_ "Host asks that guests refrain from partying loudly into the evening on back patio/pool area. Guest swim at the"| \_\_truncated\_\_ "I just have one rule. The Golden Rule Do unto others as you would have them do unto you. This is a no smoking d"| \_\_truncated\_\_ "ABOUT YOU. Friendly travelers or people coming to LA for work are welcome to stay .I am open to interns who vi"| \_\_truncated\_\_ ...  
## $ host\_id : int 521 767 3008 3041 3207 3415 9171 9171 9171 11619 ...  
## $ host\_since : Date, format: "2008-06-27" "2008-07-11" ...  
## $ host\_about : chr "Search for me on the Internet with the keyword pppaolo\n\nPolyhedric Lateral Thinker Entrepreneur, a Human Netw"| \_\_truncated\_\_ "Single mother, CEO and Owner of an international coaching and training business. \n\nLove to travel! Family-fo"| \_\_truncated\_\_ "Writer.\nLiterary Manager.\nPhotographer.\nProducing Partner.\nI work all the time.\nI wear many hats.\nProfess"| \_\_truncated\_\_ "I have been teaching yoga and meditation for 30 years.\nWorld-traveled,passionate,love life and committed to ma"| \_\_truncated\_\_ ...  
## $ host\_response\_time : Factor w/ 6 levels "","a few days or more",..: 4 4 5 6 3 4 6 6 6 6 ...  
## $ host\_response\_rate : num 100 67 100 100 NA 63 100 100 100 100 ...  
## $ host\_acceptance\_rate : num 97 97 94 73 NA 97 99 99 99 94 ...  
## $ host\_is\_superhost : Factor w/ 3 levels "","f","t": 2 2 3 2 2 2 3 3 3 2 ...  
## $ host\_total\_listings\_count : int 1 1 2 2 1 6 8 8 8 15 ...  
## $ host\_verifications : Factor w/ 491 levels "['email', 'facebook', 'reviews', 'jumio', 'government\_id', 'work\_email']",..: 101 280 101 295 64 278 116 116 116 289 ...  
## $ host\_identity\_verified : Factor w/ 3 levels "","f","t": 3 3 3 2 3 3 2 2 2 3 ...  
## $ street : Factor w/ 431 levels " Los Angeles, CA, United States",..: 70 44 179 311 34 179 179 179 179 427 ...  
## $ neighbourhood\_cleansed : Factor w/ 264 levels "Acton","Adams-Normandie",..: 54 32 102 194 23 104 57 57 57 264 ...  
## $ neighbourhood\_group\_cleansed : Factor w/ 3 levels "City of Los Angeles",..: 2 2 1 2 2 1 1 1 1 1 ...  
## $ city : Factor w/ 404 levels ""," Los Angeles",..: 67 41 157 292 33 157 157 157 157 399 ...  
## $ zipcode : Factor w/ 330 levels "","0000","10001",..: 81 236 53 117 138 53 67 67 67 219 ...  
## $ latitude : num 34 34.2 34.1 34 33.9 ...  
## $ longitude : num -118 -118 -118 -118 -118 ...  
## $ property\_type : Factor w/ 46 levels "Aparthotel","Apartment",..: 16 26 2 2 2 22 39 23 26 7 ...  
## $ room\_type : Factor w/ 4 levels "Entire home/apt",..: 1 1 3 3 1 1 3 3 1 1 ...  
## $ accommodates : int 6 6 1 1 2 2 2 3 5 4 ...  
## $ bathrooms : num 2 1 1.5 1 1 1 1 1 1 1 ...  
## $ bedrooms : num 2 3 1 1 1 1 1 1 2 1 ...  
## $ beds : num 3 3 1 1 1 2 1 1 2 1 ...  
## $ bed\_type : Factor w/ 6 levels "","Airbed","Couch",..: 6 6 6 5 6 6 6 2 6 6 ...  
## $ amenities : chr "{tv,\"cable tv\",internet,wifi,\"air conditioning\",\"wheelchair accessible\",pool,kitchen,\"free parking on pr"| \_\_truncated\_\_ "{internet,wifi,\"air conditioning\",pool,kitchen,\"pets live on this property\",dog(s),\"free street parking\","| \_\_truncated\_\_ "{internet,wifi,\"air conditioning\",\"wheelchair accessible\",kitchen,\"free parking on premises\",gym,breakfas"| \_\_truncated\_\_ "{internet,wifi,kitchen,heating,washer,dryer,\"smoke detector\",essentials,shampoo,hangers,\"hair dryer\",microw"| \_\_truncated\_\_ ...  
## $ price : num 122 168 79 155 80 145 75 105 303 85 ...  
## $ security\_deposit : num 500 0 450 182 100 ...  
## $ cleaning\_fee : num 240 100 84 100 75 60 25 50 100 25 ...  
## $ guests\_included : int 3 6 1 1 1 1 1 2 2 2 ...  
## $ extra\_people : num 25 0 0 0 25 9 15 15 15 25 ...  
## $ minimum\_nights : int 30 2 30 1 2 3 30 30 1 5 ...  
## $ maximum\_nights : int 730 14 366 180 730 730 1125 1125 90 30 ...  
## $ calendar\_updated : Factor w/ 91 levels "1 week ago","10 months ago",..: 13 77 26 26 16 2 90 12 14 40 ...  
## $ has\_availability : Factor w/ 1 level "t": 1 1 1 1 1 1 1 1 1 1 ...  
## $ availability\_30 : int 0 0 30 30 0 0 0 16 14 30 ...  
## $ availability\_60 : int 0 0 32 60 0 12 12 19 38 47 ...  
## $ availability\_90 : int 0 1 32 90 0 42 42 28 61 47 ...  
## $ availability\_365 : int 14 73 281 365 0 317 249 230 136 47 ...  
## $ calendar\_last\_scraped : Date, format: "2020-04-15" "2020-04-15" ...  
## $ number\_of\_reviews : int 2 8 24 21 0 23 309 228 126 25 ...  
## $ first\_review : Date, format: "2011-08-15" "2016-06-14" ...  
## $ last\_review : Date, format: "2016-05-15" "2019-10-19" ...  
## $ review\_scores\_rating : num 97 97 97 94 96.2 ...  
## $ review\_scores\_accuracy : num 10 10 10 9 9.61 ...  
## $ review\_scores\_cleanliness : num 10 10 10 9 9.42 ...  
## $ review\_scores\_checkin : num 6 10 10 9 9.75 ...  
## $ review\_scores\_communication : num 8 10 10 9 9.72 ...  
## $ review\_scores\_location : num 10 10 10 10 9.7 ...  
## $ review\_scores\_value : num 8 10 10 9 9.43 ...  
## $ requires\_license : Factor w/ 2 levels "f","t": 1 1 2 2 1 2 2 2 2 2 ...  
## $ instant\_bookable : Factor w/ 2 levels "f","t": 1 2 2 1 1 1 2 2 2 2 ...  
## $ cancellation\_policy : Factor w/ 9 levels "flexible","luxury\_moderate",..: 7 1 7 7 7 7 5 5 5 7 ...  
## $ require\_guest\_profile\_picture : Factor w/ 2 levels "f","t": 2 1 1 1 1 1 1 1 1 1 ...  
## $ require\_guest\_phone\_verification : Factor w/ 2 levels "f","t": 1 1 1 1 1 1 1 1 1 1 ...  
## $ calculated\_host\_listings\_count\_entire\_homes : int 1 1 0 1 1 1 1 1 1 3 ...  
## $ calculated\_host\_listings\_count\_private\_rooms: int 0 0 2 1 0 3 3 3 3 3 ...  
## $ calculated\_host\_listings\_count\_shared\_rooms : int 0 0 0 0 0 0 0 0 0 0 ...  
## $ reviews\_per\_month : num 0.02 0.17 0.34 0.19 NA 0.29 2.36 1.76 1.16 0.19 ...  
## $ wifi : Factor w/ 2 levels "FALSE","TRUE": 2 2 2 2 2 2 2 2 2 2 ...  
## $ parking : Factor w/ 2 levels "FALSE","TRUE": 2 2 2 1 2 2 2 2 2 2 ...  
## $ shampoo : logi TRUE TRUE TRUE TRUE FALSE TRUE ...

#Removed for analysis  
levels(data$host\_is\_superhost)[which(levels(data$host\_is\_superhost)=="")]<-NA   
levels(data$bed\_type)[which(levels(data$bed\_type)=="")]<-NA   
levels(data$host\_response\_time)[which(levels(data$host\_response\_time)=="")]<-NA  
levels(data$host\_identity\_verified)[which(levels(data$host\_identity\_verified)=="")]<-NA

Backward & Forward elimination and checking assumptions of the linear regression model

model<-lm(price~bedrooms+property\_type+beds+host\_is\_superhost+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+  
 review\_scores\_rating+bed\_type+review\_scores\_accuracy+review\_scores\_checkin+review\_scores\_cleanliness+  
 review\_scores\_communication+review\_scores\_location+review\_scores\_value+wifi+parking+shampoo,data=data)  
  
library(MASS)

## Warning: package 'MASS' was built under R version 3.6.3

summary(model)

##   
## Call:  
## lm(formula = price ~ bedrooms + property\_type + beds + host\_is\_superhost +   
## neighbourhood\_cleansed + cleaning\_fee + security\_deposit +   
## review\_scores\_rating + bed\_type + review\_scores\_accuracy +   
## review\_scores\_checkin + review\_scores\_cleanliness + review\_scores\_communication +   
## review\_scores\_location + review\_scores\_value + wifi + parking +   
## shampoo, data = data)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -180.879 -32.210 -8.156 22.410 250.088   
##   
## Coefficients:  
## Estimate  
## (Intercept) 2.547e+00  
## bedrooms 2.199e+01  
## property\_typeApartment -1.635e+01  
## property\_typeBarn -2.572e+01  
## property\_typeBed and breakfast -2.236e+01  
## property\_typeBoat -2.181e+01  
## property\_typeBoutique hotel 1.973e+01  
## property\_typeBungalow -1.581e+01  
## property\_typeBus 7.402e+01  
## property\_typeCabin 3.203e+00  
## property\_typeCamper/RV -1.102e+01  
## property\_typeCampsite -3.523e+01  
## property\_typeCasa particular (Cuba) -3.559e+01  
## property\_typeCastle -4.921e+00  
## property\_typeCave -2.067e+01  
## property\_typeChalet -7.718e+01  
## property\_typeCondominium -1.503e+01  
## property\_typeCottage -6.396e+00  
## property\_typeDome house -4.622e+01  
## property\_typeDorm -7.684e+01  
## property\_typeEarth house -9.529e+00  
## property\_typeFarm stay -1.567e+01  
## property\_typeGuest suite -1.608e+01  
## property\_typeGuesthouse -4.896e+00  
## property\_typeHostel -4.690e+01  
## property\_typeHotel 1.874e+01  
## property\_typeHouse -2.357e+01  
## property\_typeHouseboat -6.200e+01  
## property\_typeHut -5.733e+01  
## property\_typeIgloo -5.511e+01  
## property\_typeIsland -6.156e+01  
## property\_typeLoft -3.856e+00  
## property\_typeMinsu (Taiwan) -4.615e+01  
## property\_typeNature lodge -7.007e+01  
## property\_typeOther -1.707e-02  
## property\_typePension (South Korea) -1.901e+01  
## property\_typeResort 9.311e+01  
## property\_typeServiced apartment 1.052e+01  
## property\_typeTent 4.171e+00  
## property\_typeTiny house -1.069e+01  
## property\_typeTipi -8.646e-02  
## property\_typeTownhouse -2.182e+01  
## property\_typeTrain 6.988e+00  
## property\_typeTreehouse 2.230e+01  
## property\_typeVacation home -7.503e+01  
## property\_typeVilla -2.183e+01  
## property\_typeYurt -2.982e+01  
## beds 6.294e+00  
## host\_is\_superhostt -7.440e-01  
## neighbourhood\_cleansedAdams-Normandie -1.574e+01  
## neighbourhood\_cleansedAgoura Hills -7.723e+00  
## neighbourhood\_cleansedAgua Dulce -3.845e-01  
## neighbourhood\_cleansedAlhambra -3.071e+01  
## neighbourhood\_cleansedAlondra Park -2.000e+01  
## neighbourhood\_cleansedAltadena -2.065e+01  
## neighbourhood\_cleansedAngeles Crest -5.326e+01  
## neighbourhood\_cleansedArcadia -2.930e+01  
## neighbourhood\_cleansedArleta -5.295e+01  
## neighbourhood\_cleansedArlington Heights -4.783e+01  
## neighbourhood\_cleansedArtesia -3.639e+01  
## neighbourhood\_cleansedAthens -2.491e+01  
## neighbourhood\_cleansedAtwater Village -1.270e+01  
## neighbourhood\_cleansedAvalon -9.249e+00  
## neighbourhood\_cleansedAvocado Heights -2.793e+01  
## neighbourhood\_cleansedAzusa -2.190e+01  
## neighbourhood\_cleansedBaldwin Hills/Crenshaw -2.710e+01  
## neighbourhood\_cleansedBaldwin Park -2.682e+01  
## neighbourhood\_cleansedBel-Air -6.641e+00  
## neighbourhood\_cleansedBell -3.470e+01  
## neighbourhood\_cleansedBell Gardens -3.012e+01  
## neighbourhood\_cleansedBellflower -3.826e+01  
## neighbourhood\_cleansedBeverly Crest -9.162e+00  
## neighbourhood\_cleansedBeverly Grove 1.119e+01  
## neighbourhood\_cleansedBeverly Hills 2.509e+00  
## neighbourhood\_cleansedBeverlywood -2.816e+01  
## neighbourhood\_cleansedBoyle Heights -2.817e+01  
## neighbourhood\_cleansedBradbury -4.260e+00  
## neighbourhood\_cleansedBrentwood -2.820e+00  
## neighbourhood\_cleansedBroadway-Manchester -3.779e+01  
## neighbourhood\_cleansedBurbank -1.492e+01  
## neighbourhood\_cleansedCalabasas -1.953e+01  
## neighbourhood\_cleansedCanoga Park -3.031e+01  
## neighbourhood\_cleansedCarson -3.864e+01  
## neighbourhood\_cleansedCarthay -4.759e-02  
## neighbourhood\_cleansedCastaic -4.372e+01  
## neighbourhood\_cleansedCastaic Canyons -3.248e+01  
## neighbourhood\_cleansedCentral-Alameda -4.119e+01  
## neighbourhood\_cleansedCentury City -1.420e-01  
## neighbourhood\_cleansedCerritos -4.020e+01  
## neighbourhood\_cleansedCharter Oak -5.913e+01  
## neighbourhood\_cleansedChatsworth -2.024e+01  
## neighbourhood\_cleansedChatsworth Reservoir 8.746e+01  
## neighbourhood\_cleansedChesterfield Square -5.171e+01  
## neighbourhood\_cleansedCheviot Hills -1.130e+01  
## neighbourhood\_cleansedChinatown -1.925e+01  
## neighbourhood\_cleansedCitrus -1.204e+01  
## neighbourhood\_cleansedClaremont -1.149e+01  
## neighbourhood\_cleansedCommerce -3.007e+00  
## neighbourhood\_cleansedCompton -1.922e+01  
## neighbourhood\_cleansedCovina -3.548e+01  
## neighbourhood\_cleansedCudahy -1.060e+02  
## neighbourhood\_cleansedCulver City -2.994e+00  
## neighbourhood\_cleansedCypress Park -4.460e+01  
## neighbourhood\_cleansedDel Aire -1.977e+01  
## neighbourhood\_cleansedDel Rey 5.357e+00  
## neighbourhood\_cleansedDesert View Highlands 5.031e+00  
## neighbourhood\_cleansedDiamond Bar -3.084e+01  
## neighbourhood\_cleansedDowney -3.229e+01  
## neighbourhood\_cleansedDowntown 1.038e+01  
## neighbourhood\_cleansedDuarte -3.827e+01  
## neighbourhood\_cleansedEagle Rock -2.024e+01  
## neighbourhood\_cleansedEast Compton -3.532e+01  
## neighbourhood\_cleansedEast Hollywood -2.966e+01  
## neighbourhood\_cleansedEast Los Angeles -3.207e+01  
## neighbourhood\_cleansedEast Pasadena -1.586e+01  
## neighbourhood\_cleansedEast San Gabriel -4.707e+01  
## neighbourhood\_cleansedEast Whittier 8.841e+00  
## neighbourhood\_cleansedEcho Park -1.392e+01  
## neighbourhood\_cleansedEl Monte -2.865e+01  
## neighbourhood\_cleansedEl Segundo -1.468e+01  
## neighbourhood\_cleansedEl Sereno -3.452e+01  
## neighbourhood\_cleansedElysian Park -1.452e+01  
## neighbourhood\_cleansedElysian Valley -1.092e+01  
## neighbourhood\_cleansedEncino -2.108e+01  
## neighbourhood\_cleansedExposition Park -1.722e+01  
## neighbourhood\_cleansedFairfax -3.428e+00  
## neighbourhood\_cleansedFlorence -5.978e+01  
## neighbourhood\_cleansedFlorence-Firestone -4.783e+01  
## neighbourhood\_cleansedGardena -3.506e+01  
## neighbourhood\_cleansedGlassell Park -2.020e+01  
## neighbourhood\_cleansedGlendale -4.609e+00  
## neighbourhood\_cleansedGlendora -3.543e+01  
## neighbourhood\_cleansedGramercy Park 1.527e+01  
## neighbourhood\_cleansedGranada Hills -1.107e+01  
## neighbourhood\_cleansedGreen Meadows -2.496e+01  
## neighbourhood\_cleansedGreen Valley -1.862e+01  
## neighbourhood\_cleansedGriffith Park -4.495e+01  
## neighbourhood\_cleansedHacienda Heights -3.942e+01  
## neighbourhood\_cleansedHancock Park -2.917e+00  
## neighbourhood\_cleansedHarbor City -2.345e+01  
## neighbourhood\_cleansedHarbor Gateway -4.855e+01  
## neighbourhood\_cleansedHarvard Heights -3.076e+01  
## neighbourhood\_cleansedHarvard Park -6.830e+01  
## neighbourhood\_cleansedHasley Canyon -2.792e+01  
## neighbourhood\_cleansedHawaiian Gardens -4.806e+01  
## neighbourhood\_cleansedHawthorne -3.886e+01  
## neighbourhood\_cleansedHermosa Beach 9.326e-01  
## neighbourhood\_cleansedHighland Park -2.394e+01  
## neighbourhood\_cleansedHistoric South-Central -6.086e+01  
## neighbourhood\_cleansedHollywood -4.461e+00  
## neighbourhood\_cleansedHollywood Hills -4.317e+00  
## neighbourhood\_cleansedHollywood Hills West -5.769e+00  
## neighbourhood\_cleansedHuntington Park -2.944e+01  
## neighbourhood\_cleansedHyde Park -3.802e+01  
## neighbourhood\_cleansedIndustry -2.545e+01  
## neighbourhood\_cleansedInglewood -2.988e+01  
## neighbourhood\_cleansedIrwindale -5.722e+01  
## neighbourhood\_cleansedJefferson Park -2.294e+01  
## neighbourhood\_cleansedKoreatown -2.372e+01  
## neighbourhood\_cleansedLa Canada Flintridge -4.531e+00  
## neighbourhood\_cleansedLa Crescenta-Montrose -6.323e+00  
## neighbourhood\_cleansedLa Habra Heights -3.166e+00  
## neighbourhood\_cleansedLa Mirada -4.178e+01  
## neighbourhood\_cleansedLa Puente -2.956e+01  
## neighbourhood\_cleansedLa Verne -4.263e+01  
## neighbourhood\_cleansedLadera Heights -6.155e+00  
## neighbourhood\_cleansedLake Balboa -2.632e+01  
## neighbourhood\_cleansedLake Hughes 6.829e+01  
## neighbourhood\_cleansedLake Los Angeles -2.612e+01  
## neighbourhood\_cleansedLake View Terrace -5.370e+01  
## neighbourhood\_cleansedLakewood -2.605e+01  
## neighbourhood\_cleansedLancaster -5.244e+01  
## neighbourhood\_cleansedLarchmont -8.915e+00  
## neighbourhood\_cleansedLawndale -3.437e+01  
## neighbourhood\_cleansedLeimert Park -3.379e+01  
## neighbourhood\_cleansedLennox -3.794e+01  
## neighbourhood\_cleansedLeona Valley -1.548e+01  
## neighbourhood\_cleansedLincoln Heights -1.211e+01  
## neighbourhood\_cleansedLomita -3.044e+01  
## neighbourhood\_cleansedLong Beach -1.612e+01  
## neighbourhood\_cleansedLopez/Kagel Canyons -3.877e+01  
## neighbourhood\_cleansedLos Feliz -8.356e+00  
## neighbourhood\_cleansedLynwood -5.153e+01  
## neighbourhood\_cleansedMalibu -4.260e+00  
## neighbourhood\_cleansedManchester Square -1.201e+01  
## neighbourhood\_cleansedManhattan Beach 5.258e+00  
## neighbourhood\_cleansedMar Vista -1.420e+01  
## neighbourhood\_cleansedMarina del Rey 2.601e+01  
## neighbourhood\_cleansedMayflower Village -4.483e+01  
## neighbourhood\_cleansedMaywood -3.999e+01  
## neighbourhood\_cleansedMid-City -1.952e+01  
## neighbourhood\_cleansedMid-Wilshire -8.409e+00  
## neighbourhood\_cleansedMission Hills -2.060e+01  
## neighbourhood\_cleansedMonrovia -1.965e+01  
## neighbourhood\_cleansedMontebello -2.893e+01  
## neighbourhood\_cleansedMontecito Heights -1.623e+01  
## neighbourhood\_cleansedMonterey Park -2.731e+01  
## neighbourhood\_cleansedMount Washington -1.412e+01  
## neighbourhood\_cleansedNorth El Monte -2.349e+01  
## neighbourhood\_cleansedNorth Hills -3.655e+01  
## neighbourhood\_cleansedNorth Hollywood -2.281e+01  
## neighbourhood\_cleansedNorth Whittier -2.962e+00  
## neighbourhood\_cleansedNortheast Antelope Valley -6.109e+01  
## neighbourhood\_cleansedNorthridge -2.307e+01  
## neighbourhood\_cleansedNorthwest Antelope Valley -7.244e+01  
## neighbourhood\_cleansedNorthwest Palmdale -6.481e+01  
## neighbourhood\_cleansedNorwalk -4.239e+01  
## neighbourhood\_cleansedPacific Palisades -3.116e+00  
## neighbourhood\_cleansedPacoima -2.710e+01  
## neighbourhood\_cleansedPalmdale -5.096e+01  
## neighbourhood\_cleansedPalms -1.924e+01  
## neighbourhood\_cleansedPalos Verdes Estates 5.184e+00  
## neighbourhood\_cleansedPanorama City -4.374e+01  
## neighbourhood\_cleansedParamount -1.756e+01  
## neighbourhood\_cleansedPasadena -1.120e+01  
## neighbourhood\_cleansedPico-Robertson -7.699e+00  
## neighbourhood\_cleansedPico-Union -2.019e+01  
## neighbourhood\_cleansedPico Rivera -3.946e+01  
## neighbourhood\_cleansedPlaya del Rey -5.730e+00  
## neighbourhood\_cleansedPlaya Vista 1.903e+00  
## neighbourhood\_cleansedPomona -3.481e+01  
## neighbourhood\_cleansedPorter Ranch -2.097e+01  
## neighbourhood\_cleansedQuartz Hill -4.976e+01  
## neighbourhood\_cleansedRancho Dominguez -6.123e+01  
## neighbourhood\_cleansedRancho Palos Verdes -2.410e+01  
## neighbourhood\_cleansedRancho Park -3.016e+01  
## neighbourhood\_cleansedRedondo Beach -4.907e+00  
## neighbourhood\_cleansedReseda -2.762e+01  
## neighbourhood\_cleansedRidge Route -2.785e+01  
## neighbourhood\_cleansedRolling Hills -4.107e+01  
## neighbourhood\_cleansedRolling Hills Estates 4.049e+01  
## neighbourhood\_cleansedRosemead -4.237e+01  
## neighbourhood\_cleansedRowland Heights -3.998e+01  
## neighbourhood\_cleansedSan Dimas -3.760e+01  
## neighbourhood\_cleansedSan Fernando -4.582e+01  
## neighbourhood\_cleansedSan Gabriel -3.131e+01  
## neighbourhood\_cleansedSan Marino -1.224e+01  
## neighbourhood\_cleansedSan Pasqual -2.364e+01  
## neighbourhood\_cleansedSan Pedro -2.414e+01  
## neighbourhood\_cleansedSanta Clarita -2.223e+01  
## neighbourhood\_cleansedSanta Fe Springs -6.375e+01  
## neighbourhood\_cleansedSanta Monica 7.351e+00  
## neighbourhood\_cleansedSawtelle -1.092e+01  
## neighbourhood\_cleansedSepulveda Basin 5.487e+01  
## neighbourhood\_cleansedShadow Hills -2.507e+01  
## neighbourhood\_cleansedSherman Oaks -1.686e+01  
## neighbourhood\_cleansedSierra Madre -1.222e+01  
## neighbourhood\_cleansedSignal Hill -2.385e+01  
## neighbourhood\_cleansedSilver Lake -4.401e+00  
## neighbourhood\_cleansedSouth Diamond Bar -3.587e+01  
## neighbourhood\_cleansedSouth El Monte -3.767e+01  
## neighbourhood\_cleansedSouth Gate -2.062e+01  
## neighbourhood\_cleansedSouth Park -5.008e+01  
## neighbourhood\_cleansedSouth Pasadena -1.679e+01  
## neighbourhood\_cleansedSouth San Gabriel -4.647e+01  
## neighbourhood\_cleansedSouth San Jose Hills -4.471e+01  
## neighbourhood\_cleansedSouth Whittier -2.803e+01  
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## neighbourhood\_cleansedStevenson Ranch -4.602e+01  
## neighbourhood\_cleansedStudio City -5.830e+00  
## neighbourhood\_cleansedSun Valley -1.845e+01  
## neighbourhood\_cleansedSun Village -2.075e+01  
## neighbourhood\_cleansedSunland -3.057e+01  
## neighbourhood\_cleansedSylmar -3.623e+01  
## neighbourhood\_cleansedTarzana -2.116e+01  
## neighbourhood\_cleansedTemple City -3.429e+01  
## neighbourhood\_cleansedToluca Lake -8.697e+00  
## neighbourhood\_cleansedTopanga 9.391e+00  
## neighbourhood\_cleansedTorrance -2.699e+01  
## neighbourhood\_cleansedTujunga -4.022e+01  
## neighbourhood\_cleansedTujunga Canyons 1.959e+01  
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## neighbourhood\_cleansedUnincorporated Santa Monica Mountains -5.775e+00  
## neighbourhood\_cleansedUnincorporated Santa Susana Mountains -1.217e+01  
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## neighbourhood\_cleansedValley Village -1.658e+01  
## neighbourhood\_cleansedVan Nuys -2.729e+01  
## neighbourhood\_cleansedVenice 8.617e+00  
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## neighbourhood\_cleansedWalnut -2.742e+01  
## neighbourhood\_cleansedWatts -6.222e+01  
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## neighbourhood\_cleansedWest Compton -4.763e+01  
## neighbourhood\_cleansedWest Covina -3.905e+01  
## neighbourhood\_cleansedWest Hills -2.301e+01  
## neighbourhood\_cleansedWest Hollywood 4.435e+00  
## neighbourhood\_cleansedWest Los Angeles -2.626e+01  
## neighbourhood\_cleansedWest Puente Valley -2.796e+01  
## neighbourhood\_cleansedWest Whittier-Los Nietos -2.736e+01  
## neighbourhood\_cleansedWestchester -1.705e+01  
## neighbourhood\_cleansedWestlake -9.222e+00  
## neighbourhood\_cleansedWestlake Village 1.336e+01  
## neighbourhood\_cleansedWestmont -1.068e+01  
## neighbourhood\_cleansedWestwood -2.908e-01  
## neighbourhood\_cleansedWhittier -3.113e+01  
## neighbourhood\_cleansedWillowbrook -1.992e+01  
## neighbourhood\_cleansedWilmington -3.740e+01  
## neighbourhood\_cleansedWindsor Square -7.201e+00  
## neighbourhood\_cleansedWinnetka -2.249e+01  
## neighbourhood\_cleansedWoodland Hills -1.957e+01  
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## security\_deposit 2.397e-02  
## review\_scores\_rating 2.715e-01  
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## bed\_typePull-out Sofa 1.132e+01  
## bed\_typeReal Bed 2.290e+01  
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## review\_scores\_value -3.152e+00  
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## bedrooms 4.433e-01  
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## property\_typeBed and breakfast 6.327e+00  
## property\_typeBoat 1.168e+01  
## property\_typeBoutique hotel 5.170e+00  
## property\_typeBungalow 4.514e+00  
## property\_typeBus 5.195e+01  
## property\_typeCabin 7.819e+00  
## property\_typeCamper/RV 5.957e+00  
## property\_typeCampsite 1.850e+01  
## property\_typeCasa particular (Cuba) 3.676e+01  
## property\_typeCastle 1.182e+01  
## property\_typeCave 2.624e+01  
## property\_typeChalet 2.150e+01  
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## property\_typeCottage 5.717e+00  
## property\_typeDome house 1.344e+01  
## property\_typeDorm 1.880e+01  
## property\_typeEarth house 1.164e+01  
## property\_typeFarm stay 1.038e+01  
## property\_typeGuest suite 4.417e+00  
## property\_typeGuesthouse 4.356e+00  
## property\_typeHostel 5.874e+00  
## property\_typeHotel 7.551e+00  
## property\_typeHouse 4.232e+00  
## property\_typeHouseboat 5.186e+01  
## property\_typeHut 2.354e+01  
## property\_typeIgloo 5.181e+01  
## property\_typeIsland 3.681e+01  
## property\_typeLoft 4.568e+00  
## property\_typeMinsu (Taiwan) 5.511e+01  
## property\_typeNature lodge 3.715e+01  
## property\_typeOther 6.846e+00  
## property\_typePension (South Korea) 5.214e+01  
## property\_typeResort 3.716e+01  
## property\_typeServiced apartment 4.813e+00  
## property\_typeTent 1.681e+01  
## property\_typeTiny house 6.634e+00  
## property\_typeTipi 2.287e+01  
## property\_typeTownhouse 4.471e+00  
## property\_typeTrain 3.680e+01  
## property\_typeTreehouse 1.620e+01  
## property\_typeVacation home 3.678e+01  
## property\_typeVilla 4.566e+00  
## property\_typeYurt 2.155e+01  
## beds 4.189e-01  
## host\_is\_superhostt 6.465e-01  
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## neighbourhood\_cleansedAgoura Hills 2.714e+01  
## neighbourhood\_cleansedAgua Dulce 2.951e+01  
## neighbourhood\_cleansedAlhambra 2.607e+01  
## neighbourhood\_cleansedAlondra Park 2.837e+01  
## neighbourhood\_cleansedAltadena 2.612e+01  
## neighbourhood\_cleansedAngeles Crest 3.691e+01  
## neighbourhood\_cleansedArcadia 2.614e+01  
## neighbourhood\_cleansedArleta 3.333e+01  
## neighbourhood\_cleansedArlington Heights 2.628e+01  
## neighbourhood\_cleansedArtesia 2.837e+01  
## neighbourhood\_cleansedAthens 3.657e+01  
## neighbourhood\_cleansedAtwater Village 2.638e+01  
## neighbourhood\_cleansedAvalon 2.685e+01  
## neighbourhood\_cleansedAvocado Heights 2.931e+01  
## neighbourhood\_cleansedAzusa 2.659e+01  
## neighbourhood\_cleansedBaldwin Hills/Crenshaw 2.649e+01  
## neighbourhood\_cleansedBaldwin Park 2.714e+01  
## neighbourhood\_cleansedBel-Air 2.661e+01  
## neighbourhood\_cleansedBell 3.654e+01  
## neighbourhood\_cleansedBell Gardens 3.470e+01  
## neighbourhood\_cleansedBellflower 2.735e+01  
## neighbourhood\_cleansedBeverly Crest 2.622e+01  
## neighbourhood\_cleansedBeverly Grove 2.602e+01  
## neighbourhood\_cleansedBeverly Hills 2.601e+01  
## neighbourhood\_cleansedBeverlywood 2.731e+01  
## neighbourhood\_cleansedBoyle Heights 2.639e+01  
## neighbourhood\_cleansedBradbury 4.482e+01  
## neighbourhood\_cleansedBrentwood 2.613e+01  
## neighbourhood\_cleansedBroadway-Manchester 2.961e+01  
## neighbourhood\_cleansedBurbank 2.605e+01  
## neighbourhood\_cleansedCalabasas 2.666e+01  
## neighbourhood\_cleansedCanoga Park 2.658e+01  
## neighbourhood\_cleansedCarson 2.650e+01  
## neighbourhood\_cleansedCarthay 2.656e+01  
## neighbourhood\_cleansedCastaic 2.877e+01  
## neighbourhood\_cleansedCastaic Canyons 2.826e+01  
## neighbourhood\_cleansedCentral-Alameda 2.790e+01  
## neighbourhood\_cleansedCentury City 2.769e+01  
## neighbourhood\_cleansedCerritos 2.757e+01  
## neighbourhood\_cleansedCharter Oak 3.023e+01  
## neighbourhood\_cleansedChatsworth 2.682e+01  
## neighbourhood\_cleansedChatsworth Reservoir 5.772e+01  
## neighbourhood\_cleansedChesterfield Square 2.790e+01  
## neighbourhood\_cleansedCheviot Hills 2.711e+01  
## neighbourhood\_cleansedChinatown 2.651e+01  
## neighbourhood\_cleansedCitrus 3.340e+01  
## neighbourhood\_cleansedClaremont 2.680e+01  
## neighbourhood\_cleansedCommerce 3.947e+01  
## neighbourhood\_cleansedCompton 2.826e+01  
## neighbourhood\_cleansedCovina 2.691e+01  
## neighbourhood\_cleansedCudahy 5.778e+01  
## neighbourhood\_cleansedCulver City 2.608e+01  
## neighbourhood\_cleansedCypress Park 2.961e+01  
## neighbourhood\_cleansedDel Aire 2.681e+01  
## neighbourhood\_cleansedDel Rey 2.611e+01  
## neighbourhood\_cleansedDesert View Highlands 4.474e+01  
## neighbourhood\_cleansedDiamond Bar 2.622e+01  
## neighbourhood\_cleansedDowney 2.652e+01  
## neighbourhood\_cleansedDowntown 2.597e+01  
## neighbourhood\_cleansedDuarte 2.782e+01  
## neighbourhood\_cleansedEagle Rock 2.626e+01  
## neighbourhood\_cleansedEast Compton 4.480e+01  
## neighbourhood\_cleansedEast Hollywood 2.601e+01  
## neighbourhood\_cleansedEast Los Angeles 2.632e+01  
## neighbourhood\_cleansedEast Pasadena 2.672e+01  
## neighbourhood\_cleansedEast San Gabriel 2.649e+01  
## neighbourhood\_cleansedEast Whittier 3.469e+01  
## neighbourhood\_cleansedEcho Park 2.602e+01  
## neighbourhood\_cleansedEl Monte 2.634e+01  
## neighbourhood\_cleansedEl Segundo 2.629e+01  
## neighbourhood\_cleansedEl Sereno 2.663e+01  
## neighbourhood\_cleansedElysian Park 2.849e+01  
## neighbourhood\_cleansedElysian Valley 2.763e+01  
## neighbourhood\_cleansedEncino 2.626e+01  
## neighbourhood\_cleansedExposition Park 2.632e+01  
## neighbourhood\_cleansedFairfax 2.608e+01  
## neighbourhood\_cleansedFlorence 2.769e+01  
## neighbourhood\_cleansedFlorence-Firestone 2.826e+01  
## neighbourhood\_cleansedGardena 2.635e+01  
## neighbourhood\_cleansedGlassell Park 2.651e+01  
## neighbourhood\_cleansedGlendale 2.600e+01  
## neighbourhood\_cleansedGlendora 2.676e+01  
## neighbourhood\_cleansedGramercy Park 2.936e+01  
## neighbourhood\_cleansedGranada Hills 2.687e+01  
## neighbourhood\_cleansedGreen Meadows 3.116e+01  
## neighbourhood\_cleansedGreen Valley 3.075e+01  
## neighbourhood\_cleansedGriffith Park 2.791e+01  
## neighbourhood\_cleansedHacienda Heights 2.613e+01  
## neighbourhood\_cleansedHancock Park 2.638e+01  
## neighbourhood\_cleansedHarbor City 2.815e+01  
## neighbourhood\_cleansedHarbor Gateway 2.696e+01  
## neighbourhood\_cleansedHarvard Heights 2.639e+01  
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## neighbourhood\_cleansedHasley Canyon 4.475e+01  
## neighbourhood\_cleansedHawaiian Gardens 5.771e+01  
## neighbourhood\_cleansedHawthorne 2.618e+01  
## neighbourhood\_cleansedHermosa Beach 2.620e+01  
## neighbourhood\_cleansedHighland Park 2.616e+01  
## neighbourhood\_cleansedHistoric South-Central 2.666e+01  
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## neighbourhood\_cleansedHyde Park 2.647e+01  
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## neighbourhood\_cleansedInglewood 2.603e+01  
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## neighbourhood\_cleansedLa Canada Flintridge 2.703e+01  
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## neighbourhood\_cleansedLa Habra Heights 2.822e+01  
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## neighbourhood\_cleansedLadera Heights 2.676e+01  
## neighbourhood\_cleansedLake Balboa 2.653e+01  
## neighbourhood\_cleansedLake Hughes 4.483e+01  
## neighbourhood\_cleansedLake Los Angeles 3.480e+01  
## neighbourhood\_cleansedLake View Terrace 3.948e+01  
## neighbourhood\_cleansedLakewood 2.680e+01  
## neighbourhood\_cleansedLancaster 2.636e+01  
## neighbourhood\_cleansedLarchmont 2.646e+01  
## neighbourhood\_cleansedLawndale 2.650e+01  
## neighbourhood\_cleansedLeimert Park 2.682e+01  
## neighbourhood\_cleansedLennox 2.769e+01  
## neighbourhood\_cleansedLeona Valley 3.339e+01  
## neighbourhood\_cleansedLincoln Heights 2.672e+01  
## neighbourhood\_cleansedLomita 2.763e+01  
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## neighbourhood\_cleansedLopez/Kagel Canyons 3.954e+01  
## neighbourhood\_cleansedLos Feliz 2.606e+01  
## neighbourhood\_cleansedLynwood 2.817e+01  
## neighbourhood\_cleansedMalibu 2.604e+01  
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## neighbourhood\_cleansedManhattan Beach 2.618e+01  
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## neighbourhood\_cleansedMayflower Village 2.799e+01  
## neighbourhood\_cleansedMaywood 3.177e+01  
## neighbourhood\_cleansedMid-City 2.603e+01  
## neighbourhood\_cleansedMid-Wilshire 2.600e+01  
## neighbourhood\_cleansedMission Hills 3.062e+01  
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## neighbourhood\_cleansedMontebello 2.720e+01  
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## neighbourhood\_cleansedMonterey Park 2.608e+01  
## neighbourhood\_cleansedMount Washington 2.635e+01  
## neighbourhood\_cleansedNorth El Monte 2.863e+01  
## neighbourhood\_cleansedNorth Hills 2.687e+01  
## neighbourhood\_cleansedNorth Hollywood 2.603e+01  
## neighbourhood\_cleansedNorth Whittier 3.948e+01  
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## neighbourhood\_cleansedNorthwest Antelope Valley 3.656e+01  
## neighbourhood\_cleansedNorthwest Palmdale 3.170e+01  
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## neighbourhood\_cleansedPacific Palisades 2.622e+01  
## neighbourhood\_cleansedPacoima 2.913e+01  
## neighbourhood\_cleansedPalmdale 2.648e+01  
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## neighbourhood\_cleansedPico-Union 2.637e+01  
## neighbourhood\_cleansedPico Rivera 2.714e+01  
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## neighbourhood\_cleansedPorter Ranch 2.850e+01  
## neighbourhood\_cleansedQuartz Hill 3.243e+01  
## neighbourhood\_cleansedRancho Dominguez 3.469e+01  
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## neighbourhood\_cleansedRancho Park 2.669e+01  
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## neighbourhood\_cleansedReseda 2.622e+01  
## neighbourhood\_cleansedRidge Route 5.773e+01  
## neighbourhood\_cleansedRolling Hills 3.340e+01  
## neighbourhood\_cleansedRolling Hills Estates 3.469e+01  
## neighbourhood\_cleansedRosemead 2.630e+01  
## neighbourhood\_cleansedRowland Heights 2.600e+01  
## neighbourhood\_cleansedSan Dimas 2.701e+01  
## neighbourhood\_cleansedSan Fernando 3.062e+01  
## neighbourhood\_cleansedSan Gabriel 2.620e+01  
## neighbourhood\_cleansedSan Marino 2.960e+01  
## neighbourhood\_cleansedSan Pasqual 2.790e+01  
## neighbourhood\_cleansedSan Pedro 2.632e+01  
## neighbourhood\_cleansedSanta Clarita 2.625e+01  
## neighbourhood\_cleansedSanta Fe Springs 3.948e+01  
## neighbourhood\_cleansedSanta Monica 2.596e+01  
## neighbourhood\_cleansedSawtelle 2.602e+01  
## neighbourhood\_cleansedSepulveda Basin 3.470e+01  
## neighbourhood\_cleansedShadow Hills 2.747e+01  
## neighbourhood\_cleansedSherman Oaks 2.604e+01  
## neighbourhood\_cleansedSierra Madre 2.826e+01  
## neighbourhood\_cleansedSignal Hill 2.711e+01  
## neighbourhood\_cleansedSilver Lake 2.601e+01  
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## neighbourhood\_cleansedSouth El Monte 3.655e+01  
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## neighbourhood\_cleansedSouth Park 2.919e+01  
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## neighbourhood\_cleansedSouth San Gabriel 2.728e+01  
## neighbourhood\_cleansedSouth San Jose Hills 3.111e+01  
## neighbourhood\_cleansedSouth Whittier 2.862e+01  
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## neighbourhood\_cleansedStevenson Ranch 3.024e+01  
## neighbourhood\_cleansedStudio City 2.605e+01  
## neighbourhood\_cleansedSun Valley 2.652e+01  
## neighbourhood\_cleansedSun Village 3.339e+01  
## neighbourhood\_cleansedSunland 3.066e+01  
## neighbourhood\_cleansedSylmar 2.763e+01  
## neighbourhood\_cleansedTarzana 2.626e+01  
## neighbourhood\_cleansedTemple City 2.620e+01  
## neighbourhood\_cleansedToluca Lake 2.660e+01  
## neighbourhood\_cleansedTopanga 2.609e+01  
## neighbourhood\_cleansedTorrance 2.607e+01  
## neighbourhood\_cleansedTujunga 2.774e+01  
## neighbourhood\_cleansedTujunga Canyons 3.433e+01  
## neighbourhood\_cleansedUnincorporated Catalina Island 3.540e+01  
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## neighbourhood\_cleansedUnincorporated Santa Susana Mountains 2.930e+01  
## neighbourhood\_cleansedUniversal City 3.948e+01  
## neighbourhood\_cleansedUniversity Park 2.667e+01  
## neighbourhood\_cleansedVal Verde 3.657e+01  
## neighbourhood\_cleansedValinda 2.826e+01  
## neighbourhood\_cleansedValley Glen 2.619e+01  
## neighbourhood\_cleansedValley Village 2.630e+01  
## neighbourhood\_cleansedVan Nuys 2.612e+01  
## neighbourhood\_cleansedVenice 2.594e+01  
## neighbourhood\_cleansedVermont-Slauson 2.859e+01  
## neighbourhood\_cleansedVermont Knolls 2.864e+01  
## neighbourhood\_cleansedVermont Square 2.645e+01  
## neighbourhood\_cleansedVermont Vista 3.469e+01  
## neighbourhood\_cleansedVernon 3.948e+01  
## neighbourhood\_cleansedVeterans Administration 2.961e+01  
## neighbourhood\_cleansedView Park-Windsor Hills 2.646e+01  
## neighbourhood\_cleansedVincent 3.656e+01  
## neighbourhood\_cleansedWalnut 2.648e+01  
## neighbourhood\_cleansedWatts 2.776e+01  
## neighbourhood\_cleansedWest Adams 2.644e+01  
## neighbourhood\_cleansedWest Carson 2.721e+01  
## neighbourhood\_cleansedWest Compton 3.470e+01  
## neighbourhood\_cleansedWest Covina 2.633e+01  
## neighbourhood\_cleansedWest Hills 2.647e+01  
## neighbourhood\_cleansedWest Hollywood 2.599e+01  
## neighbourhood\_cleansedWest Los Angeles 2.622e+01  
## neighbourhood\_cleansedWest Puente Valley 2.962e+01  
## neighbourhood\_cleansedWest Whittier-Los Nietos 3.112e+01  
## neighbourhood\_cleansedWestchester 2.610e+01  
## neighbourhood\_cleansedWestlake 2.600e+01  
## neighbourhood\_cleansedWestlake Village 3.062e+01  
## neighbourhood\_cleansedWestmont 2.763e+01  
## neighbourhood\_cleansedWestwood 2.602e+01  
## neighbourhood\_cleansedWhittier 2.660e+01  
## neighbourhood\_cleansedWillowbrook 2.863e+01  
## neighbourhood\_cleansedWilmington 2.738e+01  
## neighbourhood\_cleansedWindsor Square 2.710e+01  
## neighbourhood\_cleansedWinnetka 2.656e+01  
## neighbourhood\_cleansedWoodland Hills 2.608e+01  
## cleaning\_fee 5.956e-03  
## security\_deposit 1.846e-03  
## review\_scores\_rating 8.321e-02  
## bed\_typeCouch 9.311e+00  
## bed\_typeFuton 7.580e+00  
## bed\_typePull-out Sofa 8.403e+00  
## bed\_typeReal Bed 6.189e+00  
## review\_scores\_accuracy 5.995e-01  
## review\_scores\_checkin 6.155e-01  
## review\_scores\_cleanliness 4.509e-01  
## review\_scores\_communication 6.168e-01  
## review\_scores\_location 5.657e-01  
## review\_scores\_value 5.549e-01  
## wifiTRUE 1.835e+00  
## parkingTRUE 8.129e-01  
## shampooTRUE 7.084e-01  
## t value  
## (Intercept) 0.090  
## bedrooms 49.598  
## property\_typeApartment -3.893  
## property\_typeBarn -1.437  
## property\_typeBed and breakfast -3.535  
## property\_typeBoat -1.868  
## property\_typeBoutique hotel 3.816  
## property\_typeBungalow -3.502  
## property\_typeBus 1.425  
## property\_typeCabin 0.410  
## property\_typeCamper/RV -1.850  
## property\_typeCampsite -1.905  
## property\_typeCasa particular (Cuba) -0.968  
## property\_typeCastle -0.416  
## property\_typeCave -0.788  
## property\_typeChalet -3.589  
## property\_typeCondominium -3.474  
## property\_typeCottage -1.119  
## property\_typeDome house -3.440  
## property\_typeDorm -4.088  
## property\_typeEarth house -0.818  
## property\_typeFarm stay -1.510  
## property\_typeGuest suite -3.642  
## property\_typeGuesthouse -1.124  
## property\_typeHostel -7.984  
## property\_typeHotel 2.482  
## property\_typeHouse -5.569  
## property\_typeHouseboat -1.195  
## property\_typeHut -2.435  
## property\_typeIgloo -1.064  
## property\_typeIsland -1.672  
## property\_typeLoft -0.844  
## property\_typeMinsu (Taiwan) -0.837  
## property\_typeNature lodge -1.886  
## property\_typeOther -0.002  
## property\_typePension (South Korea) -0.365  
## property\_typeResort 2.506  
## property\_typeServiced apartment 2.185  
## property\_typeTent 0.248  
## property\_typeTiny house -1.611  
## property\_typeTipi -0.004  
## property\_typeTownhouse -4.881  
## property\_typeTrain 0.190  
## property\_typeTreehouse 1.377  
## property\_typeVacation home -2.040  
## property\_typeVilla -4.781  
## property\_typeYurt -1.384  
## beds 15.026  
## host\_is\_superhostt -1.151  
## neighbourhood\_cleansedAdams-Normandie -0.584  
## neighbourhood\_cleansedAgoura Hills -0.285  
## neighbourhood\_cleansedAgua Dulce -0.013  
## neighbourhood\_cleansedAlhambra -1.178  
## neighbourhood\_cleansedAlondra Park -0.705  
## neighbourhood\_cleansedAltadena -0.791  
## neighbourhood\_cleansedAngeles Crest -1.443  
## neighbourhood\_cleansedArcadia -1.121  
## neighbourhood\_cleansedArleta -1.589  
## neighbourhood\_cleansedArlington Heights -1.820  
## neighbourhood\_cleansedArtesia -1.283  
## neighbourhood\_cleansedAthens -0.681  
## neighbourhood\_cleansedAtwater Village -0.481  
## neighbourhood\_cleansedAvalon -0.344  
## neighbourhood\_cleansedAvocado Heights -0.953  
## neighbourhood\_cleansedAzusa -0.824  
## neighbourhood\_cleansedBaldwin Hills/Crenshaw -1.023  
## neighbourhood\_cleansedBaldwin Park -0.988  
## neighbourhood\_cleansedBel-Air -0.250  
## neighbourhood\_cleansedBell -0.949  
## neighbourhood\_cleansedBell Gardens -0.868  
## neighbourhood\_cleansedBellflower -1.399  
## neighbourhood\_cleansedBeverly Crest -0.349  
## neighbourhood\_cleansedBeverly Grove 0.430  
## neighbourhood\_cleansedBeverly Hills 0.096  
## neighbourhood\_cleansedBeverlywood -1.031  
## neighbourhood\_cleansedBoyle Heights -1.067  
## neighbourhood\_cleansedBradbury -0.095  
## neighbourhood\_cleansedBrentwood -0.108  
## neighbourhood\_cleansedBroadway-Manchester -1.276  
## neighbourhood\_cleansedBurbank -0.573  
## neighbourhood\_cleansedCalabasas -0.733  
## neighbourhood\_cleansedCanoga Park -1.141  
## neighbourhood\_cleansedCarson -1.458  
## neighbourhood\_cleansedCarthay -0.002  
## neighbourhood\_cleansedCastaic -1.519  
## neighbourhood\_cleansedCastaic Canyons -1.149  
## neighbourhood\_cleansedCentral-Alameda -1.476  
## neighbourhood\_cleansedCentury City -0.005  
## neighbourhood\_cleansedCerritos -1.458  
## neighbourhood\_cleansedCharter Oak -1.956  
## neighbourhood\_cleansedChatsworth -0.755  
## neighbourhood\_cleansedChatsworth Reservoir 1.515  
## neighbourhood\_cleansedChesterfield Square -1.853  
## neighbourhood\_cleansedCheviot Hills -0.417  
## neighbourhood\_cleansedChinatown -0.726  
## neighbourhood\_cleansedCitrus -0.361  
## neighbourhood\_cleansedClaremont -0.429  
## neighbourhood\_cleansedCommerce -0.076  
## neighbourhood\_cleansedCompton -0.680  
## neighbourhood\_cleansedCovina -1.319  
## neighbourhood\_cleansedCudahy -1.835  
## neighbourhood\_cleansedCulver City -0.115  
## neighbourhood\_cleansedCypress Park -1.506  
## neighbourhood\_cleansedDel Aire -0.737  
## neighbourhood\_cleansedDel Rey 0.205  
## neighbourhood\_cleansedDesert View Highlands 0.112  
## neighbourhood\_cleansedDiamond Bar -1.177  
## neighbourhood\_cleansedDowney -1.218  
## neighbourhood\_cleansedDowntown 0.400  
## neighbourhood\_cleansedDuarte -1.376  
## neighbourhood\_cleansedEagle Rock -0.771  
## neighbourhood\_cleansedEast Compton -0.788  
## neighbourhood\_cleansedEast Hollywood -1.140  
## neighbourhood\_cleansedEast Los Angeles -1.219  
## neighbourhood\_cleansedEast Pasadena -0.594  
## neighbourhood\_cleansedEast San Gabriel -1.777  
## neighbourhood\_cleansedEast Whittier 0.255  
## neighbourhood\_cleansedEcho Park -0.535  
## neighbourhood\_cleansedEl Monte -1.088  
## neighbourhood\_cleansedEl Segundo -0.558  
## neighbourhood\_cleansedEl Sereno -1.296  
## neighbourhood\_cleansedElysian Park -0.509  
## neighbourhood\_cleansedElysian Valley -0.395  
## neighbourhood\_cleansedEncino -0.803  
## neighbourhood\_cleansedExposition Park -0.654  
## neighbourhood\_cleansedFairfax -0.131  
## neighbourhood\_cleansedFlorence -2.159  
## neighbourhood\_cleansedFlorence-Firestone -1.692  
## neighbourhood\_cleansedGardena -1.330  
## neighbourhood\_cleansedGlassell Park -0.762  
## neighbourhood\_cleansedGlendale -0.177  
## neighbourhood\_cleansedGlendora -1.324  
## neighbourhood\_cleansedGramercy Park 0.520  
## neighbourhood\_cleansedGranada Hills -0.412  
## neighbourhood\_cleansedGreen Meadows -0.801  
## neighbourhood\_cleansedGreen Valley -0.606  
## neighbourhood\_cleansedGriffith Park -1.611  
## neighbourhood\_cleansedHacienda Heights -1.509  
## neighbourhood\_cleansedHancock Park -0.111  
## neighbourhood\_cleansedHarbor City -0.833  
## neighbourhood\_cleansedHarbor Gateway -1.801  
## neighbourhood\_cleansedHarvard Heights -1.165  
## neighbourhood\_cleansedHarvard Park -2.284  
## neighbourhood\_cleansedHasley Canyon -0.624  
## neighbourhood\_cleansedHawaiian Gardens -0.833  
## neighbourhood\_cleansedHawthorne -1.484  
## neighbourhood\_cleansedHermosa Beach 0.036  
## neighbourhood\_cleansedHighland Park -0.915  
## neighbourhood\_cleansedHistoric South-Central -2.283  
## neighbourhood\_cleansedHollywood -0.172  
## neighbourhood\_cleansedHollywood Hills -0.166  
## neighbourhood\_cleansedHollywood Hills West -0.222  
## neighbourhood\_cleansedHuntington Park -0.908  
## neighbourhood\_cleansedHyde Park -1.436  
## neighbourhood\_cleansedIndustry -0.943  
## neighbourhood\_cleansedInglewood -1.148  
## neighbourhood\_cleansedIrwindale -1.714  
## neighbourhood\_cleansedJefferson Park -0.863  
## neighbourhood\_cleansedKoreatown -0.912  
## neighbourhood\_cleansedLa Canada Flintridge -0.168  
## neighbourhood\_cleansedLa Crescenta-Montrose -0.228  
## neighbourhood\_cleansedLa Habra Heights -0.112  
## neighbourhood\_cleansedLa Mirada -1.383  
## neighbourhood\_cleansedLa Puente -1.006  
## neighbourhood\_cleansedLa Verne -1.576  
## neighbourhood\_cleansedLadera Heights -0.230  
## neighbourhood\_cleansedLake Balboa -0.992  
## neighbourhood\_cleansedLake Hughes 1.523  
## neighbourhood\_cleansedLake Los Angeles -0.750  
## neighbourhood\_cleansedLake View Terrace -1.360  
## neighbourhood\_cleansedLakewood -0.972  
## neighbourhood\_cleansedLancaster -1.990  
## neighbourhood\_cleansedLarchmont -0.337  
## neighbourhood\_cleansedLawndale -1.297  
## neighbourhood\_cleansedLeimert Park -1.260  
## neighbourhood\_cleansedLennox -1.370  
## neighbourhood\_cleansedLeona Valley -0.464  
## neighbourhood\_cleansedLincoln Heights -0.453  
## neighbourhood\_cleansedLomita -1.102  
## neighbourhood\_cleansedLong Beach -0.621  
## neighbourhood\_cleansedLopez/Kagel Canyons -0.980  
## neighbourhood\_cleansedLos Feliz -0.321  
## neighbourhood\_cleansedLynwood -1.829  
## neighbourhood\_cleansedMalibu -0.164  
## neighbourhood\_cleansedManchester Square -0.425  
## neighbourhood\_cleansedManhattan Beach 0.201  
## neighbourhood\_cleansedMar Vista -0.545  
## neighbourhood\_cleansedMarina del Rey 0.996  
## neighbourhood\_cleansedMayflower Village -1.601  
## neighbourhood\_cleansedMaywood -1.258  
## neighbourhood\_cleansedMid-City -0.750  
## neighbourhood\_cleansedMid-Wilshire -0.323  
## neighbourhood\_cleansedMission Hills -0.673  
## neighbourhood\_cleansedMonrovia -0.743  
## neighbourhood\_cleansedMontebello -1.064  
## neighbourhood\_cleansedMontecito Heights -0.610  
## neighbourhood\_cleansedMonterey Park -1.047  
## neighbourhood\_cleansedMount Washington -0.536  
## neighbourhood\_cleansedNorth El Monte -0.820  
## neighbourhood\_cleansedNorth Hills -1.360  
## neighbourhood\_cleansedNorth Hollywood -0.876  
## neighbourhood\_cleansedNorth Whittier -0.075  
## neighbourhood\_cleansedNortheast Antelope Valley -1.889  
## neighbourhood\_cleansedNorthridge -0.875  
## neighbourhood\_cleansedNorthwest Antelope Valley -1.981  
## neighbourhood\_cleansedNorthwest Palmdale -2.044  
## neighbourhood\_cleansedNorwalk -1.571  
## neighbourhood\_cleansedPacific Palisades -0.119  
## neighbourhood\_cleansedPacoima -0.930  
## neighbourhood\_cleansedPalmdale -1.925  
## neighbourhood\_cleansedPalms -0.737  
## neighbourhood\_cleansedPalos Verdes Estates 0.177  
## neighbourhood\_cleansedPanorama City -1.572  
## neighbourhood\_cleansedParamount -0.573  
## neighbourhood\_cleansedPasadena -0.430  
## neighbourhood\_cleansedPico-Robertson -0.294  
## neighbourhood\_cleansedPico-Union -0.766  
## neighbourhood\_cleansedPico Rivera -1.454  
## neighbourhood\_cleansedPlaya del Rey -0.218  
## neighbourhood\_cleansedPlaya Vista 0.072  
## neighbourhood\_cleansedPomona -1.324  
## neighbourhood\_cleansedPorter Ranch -0.736  
## neighbourhood\_cleansedQuartz Hill -1.534  
## neighbourhood\_cleansedRancho Dominguez -1.765  
## neighbourhood\_cleansedRancho Palos Verdes -0.908  
## neighbourhood\_cleansedRancho Park -1.130  
## neighbourhood\_cleansedRedondo Beach -0.188  
## neighbourhood\_cleansedReseda -1.053  
## neighbourhood\_cleansedRidge Route -0.482  
## neighbourhood\_cleansedRolling Hills -1.230  
## neighbourhood\_cleansedRolling Hills Estates 1.167  
## neighbourhood\_cleansedRosemead -1.611  
## neighbourhood\_cleansedRowland Heights -1.538  
## neighbourhood\_cleansedSan Dimas -1.392  
## neighbourhood\_cleansedSan Fernando -1.496  
## neighbourhood\_cleansedSan Gabriel -1.195  
## neighbourhood\_cleansedSan Marino -0.413  
## neighbourhood\_cleansedSan Pasqual -0.848  
## neighbourhood\_cleansedSan Pedro -0.917  
## neighbourhood\_cleansedSanta Clarita -0.847  
## neighbourhood\_cleansedSanta Fe Springs -1.615  
## neighbourhood\_cleansedSanta Monica 0.283  
## neighbourhood\_cleansedSawtelle -0.420  
## neighbourhood\_cleansedSepulveda Basin 1.581  
## neighbourhood\_cleansedShadow Hills -0.913  
## neighbourhood\_cleansedSherman Oaks -0.647  
## neighbourhood\_cleansedSierra Madre -0.432  
## neighbourhood\_cleansedSignal Hill -0.880  
## neighbourhood\_cleansedSilver Lake -0.169  
## neighbourhood\_cleansedSouth Diamond Bar -0.621  
## neighbourhood\_cleansedSouth El Monte -1.031  
## neighbourhood\_cleansedSouth Gate -0.738  
## neighbourhood\_cleansedSouth Park -1.716  
## neighbourhood\_cleansedSouth Pasadena -0.634  
## neighbourhood\_cleansedSouth San Gabriel -1.703  
## neighbourhood\_cleansedSouth San Jose Hills -1.437  
## neighbourhood\_cleansedSouth Whittier -0.980  
## neighbourhood\_cleansedSoutheast Antelope Valley -0.651  
## neighbourhood\_cleansedStevenson Ranch -1.522  
## neighbourhood\_cleansedStudio City -0.224  
## neighbourhood\_cleansedSun Valley -0.696  
## neighbourhood\_cleansedSun Village -0.621  
## neighbourhood\_cleansedSunland -0.997  
## neighbourhood\_cleansedSylmar -1.311  
## neighbourhood\_cleansedTarzana -0.806  
## neighbourhood\_cleansedTemple City -1.309  
## neighbourhood\_cleansedToluca Lake -0.327  
## neighbourhood\_cleansedTopanga 0.360  
## neighbourhood\_cleansedTorrance -1.035  
## neighbourhood\_cleansedTujunga -1.450  
## neighbourhood\_cleansedTujunga Canyons 0.571  
## neighbourhood\_cleansedUnincorporated Catalina Island -0.367  
## neighbourhood\_cleansedUnincorporated Santa Monica Mountains -0.220  
## neighbourhood\_cleansedUnincorporated Santa Susana Mountains -0.415  
## neighbourhood\_cleansedUniversal City -0.327  
## neighbourhood\_cleansedUniversity Park -1.643  
## neighbourhood\_cleansedVal Verde -0.862  
## neighbourhood\_cleansedValinda -1.662  
## neighbourhood\_cleansedValley Glen -0.654  
## neighbourhood\_cleansedValley Village -0.630  
## neighbourhood\_cleansedVan Nuys -1.045  
## neighbourhood\_cleansedVenice 0.332  
## neighbourhood\_cleansedVermont-Slauson -1.096  
## neighbourhood\_cleansedVermont Knolls -1.481  
## neighbourhood\_cleansedVermont Square -1.562  
## neighbourhood\_cleansedVermont Vista -1.056  
## neighbourhood\_cleansedVernon 0.127  
## neighbourhood\_cleansedVeterans Administration 0.046  
## neighbourhood\_cleansedView Park-Windsor Hills -0.558  
## neighbourhood\_cleansedVincent 0.077  
## neighbourhood\_cleansedWalnut -1.036  
## neighbourhood\_cleansedWatts -2.242  
## neighbourhood\_cleansedWest Adams -1.065  
## neighbourhood\_cleansedWest Carson -0.979  
## neighbourhood\_cleansedWest Compton -1.373  
## neighbourhood\_cleansedWest Covina -1.483  
## neighbourhood\_cleansedWest Hills -0.870  
## neighbourhood\_cleansedWest Hollywood 0.171  
## neighbourhood\_cleansedWest Los Angeles -1.002  
## neighbourhood\_cleansedWest Puente Valley -0.944  
## neighbourhood\_cleansedWest Whittier-Los Nietos -0.879  
## neighbourhood\_cleansedWestchester -0.653  
## neighbourhood\_cleansedWestlake -0.355  
## neighbourhood\_cleansedWestlake Village 0.436  
## neighbourhood\_cleansedWestmont -0.387  
## neighbourhood\_cleansedWestwood -0.011  
## neighbourhood\_cleansedWhittier -1.170  
## neighbourhood\_cleansedWillowbrook -0.696  
## neighbourhood\_cleansedWilmington -1.366  
## neighbourhood\_cleansedWindsor Square -0.266  
## neighbourhood\_cleansedWinnetka -0.847  
## neighbourhood\_cleansedWoodland Hills -0.750  
## cleaning\_fee 55.343  
## security\_deposit 12.986  
## review\_scores\_rating 3.263  
## bed\_typeCouch -0.215  
## bed\_typeFuton 1.004  
## bed\_typePull-out Sofa 1.347  
## bed\_typeReal Bed 3.701  
## review\_scores\_accuracy -0.369  
## review\_scores\_checkin -2.227  
## review\_scores\_cleanliness 6.786  
## review\_scores\_communication 0.188  
## review\_scores\_location 6.499  
## review\_scores\_value -5.679  
## wifiTRUE -3.814  
## parkingTRUE 10.989  
## shampooTRUE 14.349  
## Pr(>|t|)   
## (Intercept) 0.928511   
## bedrooms < 2e-16 \*\*\*  
## property\_typeApartment 9.92e-05 \*\*\*  
## property\_typeBarn 0.150640   
## property\_typeBed and breakfast 0.000409 \*\*\*  
## property\_typeBoat 0.061809 .   
## property\_typeBoutique hotel 0.000136 \*\*\*  
## property\_typeBungalow 0.000461 \*\*\*  
## property\_typeBus 0.154207   
## property\_typeCabin 0.682085   
## property\_typeCamper/RV 0.064294 .   
## property\_typeCampsite 0.056838 .   
## property\_typeCasa particular (Cuba) 0.332941   
## property\_typeCastle 0.677209   
## property\_typeCave 0.430846   
## property\_typeChalet 0.000332 \*\*\*  
## property\_typeCondominium 0.000514 \*\*\*  
## property\_typeCottage 0.263306   
## property\_typeDome house 0.000582 \*\*\*  
## property\_typeDorm 4.37e-05 \*\*\*  
## property\_typeEarth house 0.413193   
## property\_typeFarm stay 0.131150   
## property\_typeGuest suite 0.000271 \*\*\*  
## property\_typeGuesthouse 0.261106   
## property\_typeHostel 1.46e-15 \*\*\*  
## property\_typeHotel 0.013073 \*   
## property\_typeHouse 2.57e-08 \*\*\*  
## property\_typeHouseboat 0.231910   
## property\_typeHut 0.014897 \*   
## property\_typeIgloo 0.287472   
## property\_typeIsland 0.094464 .   
## property\_typeLoft 0.398592   
## property\_typeMinsu (Taiwan) 0.402388   
## property\_typeNature lodge 0.059278 .   
## property\_typeOther 0.998010   
## property\_typePension (South Korea) 0.715458   
## property\_typeResort 0.012223 \*   
## property\_typeServiced apartment 0.028882 \*   
## property\_typeTent 0.803978   
## property\_typeTiny house 0.107211   
## property\_typeTipi 0.996983   
## property\_typeTownhouse 1.06e-06 \*\*\*  
## property\_typeTrain 0.849400   
## property\_typeTreehouse 0.168540   
## property\_typeVacation home 0.041350 \*   
## property\_typeVilla 1.75e-06 \*\*\*  
## property\_typeYurt 0.166455   
## beds < 2e-16 \*\*\*  
## host\_is\_superhostt 0.249848   
## neighbourhood\_cleansedAdams-Normandie 0.559427   
## neighbourhood\_cleansedAgoura Hills 0.775965   
## neighbourhood\_cleansedAgua Dulce 0.989603   
## neighbourhood\_cleansedAlhambra 0.238901   
## neighbourhood\_cleansedAlondra Park 0.480695   
## neighbourhood\_cleansedAltadena 0.429128   
## neighbourhood\_cleansedAngeles Crest 0.149005   
## neighbourhood\_cleansedArcadia 0.262415   
## neighbourhood\_cleansedArleta 0.112112   
## neighbourhood\_cleansedArlington Heights 0.068760 .   
## neighbourhood\_cleansedArtesia 0.199591   
## neighbourhood\_cleansedAthens 0.495716   
## neighbourhood\_cleansedAtwater Village 0.630258   
## neighbourhood\_cleansedAvalon 0.730532   
## neighbourhood\_cleansedAvocado Heights 0.340583   
## neighbourhood\_cleansedAzusa 0.410220   
## neighbourhood\_cleansedBaldwin Hills/Crenshaw 0.306431   
## neighbourhood\_cleansedBaldwin Park 0.323155   
## neighbourhood\_cleansedBel-Air 0.802910   
## neighbourhood\_cleansedBell 0.342377   
## neighbourhood\_cleansedBell Gardens 0.385526   
## neighbourhood\_cleansedBellflower 0.161753   
## neighbourhood\_cleansedBeverly Crest 0.726735   
## neighbourhood\_cleansedBeverly Grove 0.667117   
## neighbourhood\_cleansedBeverly Hills 0.923167   
## neighbourhood\_cleansedBeverlywood 0.302465   
## neighbourhood\_cleansedBoyle Heights 0.285908   
## neighbourhood\_cleansedBradbury 0.924282   
## neighbourhood\_cleansedBrentwood 0.914039   
## neighbourhood\_cleansedBroadway-Manchester 0.201860   
## neighbourhood\_cleansedBurbank 0.566768   
## neighbourhood\_cleansedCalabasas 0.463788   
## neighbourhood\_cleansedCanoga Park 0.254069   
## neighbourhood\_cleansedCarson 0.144903   
## neighbourhood\_cleansedCarthay 0.998571   
## neighbourhood\_cleansedCastaic 0.128702   
## neighbourhood\_cleansedCastaic Canyons 0.250460   
## neighbourhood\_cleansedCentral-Alameda 0.139961   
## neighbourhood\_cleansedCentury City 0.995908   
## neighbourhood\_cleansedCerritos 0.144917   
## neighbourhood\_cleansedCharter Oak 0.050443 .   
## neighbourhood\_cleansedChatsworth 0.450436   
## neighbourhood\_cleansedChatsworth Reservoir 0.129696   
## neighbourhood\_cleansedChesterfield Square 0.063826 .   
## neighbourhood\_cleansedCheviot Hills 0.676785   
## neighbourhood\_cleansedChinatown 0.467827   
## neighbourhood\_cleansedCitrus 0.718395   
## neighbourhood\_cleansedClaremont 0.668080   
## neighbourhood\_cleansedCommerce 0.939262   
## neighbourhood\_cleansedCompton 0.496435   
## neighbourhood\_cleansedCovina 0.187293   
## neighbourhood\_cleansedCudahy 0.066489 .   
## neighbourhood\_cleansedCulver City 0.908596   
## neighbourhood\_cleansedCypress Park 0.132007   
## neighbourhood\_cleansedDel Aire 0.460881   
## neighbourhood\_cleansedDel Rey 0.837464   
## neighbourhood\_cleansedDesert View Highlands 0.910450   
## neighbourhood\_cleansedDiamond Bar 0.239382   
## neighbourhood\_cleansedDowney 0.223290   
## neighbourhood\_cleansedDowntown 0.689321   
## neighbourhood\_cleansedDuarte 0.168902   
## neighbourhood\_cleansedEagle Rock 0.440896   
## neighbourhood\_cleansedEast Compton 0.430530   
## neighbourhood\_cleansedEast Hollywood 0.254220   
## neighbourhood\_cleansedEast Los Angeles 0.223037   
## neighbourhood\_cleansedEast Pasadena 0.552623   
## neighbourhood\_cleansedEast San Gabriel 0.075594 .   
## neighbourhood\_cleansedEast Whittier 0.798843   
## neighbourhood\_cleansedEcho Park 0.592632   
## neighbourhood\_cleansedEl Monte 0.276789   
## neighbourhood\_cleansedEl Segundo 0.576645   
## neighbourhood\_cleansedEl Sereno 0.194874   
## neighbourhood\_cleansedElysian Park 0.610448   
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## neighbourhood\_cleansedEncino 0.422054   
## neighbourhood\_cleansedExposition Park 0.513080   
## neighbourhood\_cleansedFairfax 0.895443   
## neighbourhood\_cleansedFlorence 0.030844 \*   
## neighbourhood\_cleansedFlorence-Firestone 0.090566 .   
## neighbourhood\_cleansedGardena 0.183386   
## neighbourhood\_cleansedGlassell Park 0.446085   
## neighbourhood\_cleansedGlendale 0.859292   
## neighbourhood\_cleansedGlendora 0.185535   
## neighbourhood\_cleansedGramercy Park 0.602951   
## neighbourhood\_cleansedGranada Hills 0.680377   
## neighbourhood\_cleansedGreen Meadows 0.423201   
## neighbourhood\_cleansedGreen Valley 0.544826   
## neighbourhood\_cleansedGriffith Park 0.107253   
## neighbourhood\_cleansedHacienda Heights 0.131364   
## neighbourhood\_cleansedHancock Park 0.911962   
## neighbourhood\_cleansedHarbor City 0.404769   
## neighbourhood\_cleansedHarbor Gateway 0.071760 .   
## neighbourhood\_cleansedHarvard Heights 0.243898   
## neighbourhood\_cleansedHarvard Park 0.022393 \*   
## neighbourhood\_cleansedHasley Canyon 0.532734   
## neighbourhood\_cleansedHawaiian Gardens 0.405047   
## neighbourhood\_cleansedHawthorne 0.137762   
## neighbourhood\_cleansedHermosa Beach 0.971604   
## neighbourhood\_cleansedHighland Park 0.359995   
## neighbourhood\_cleansedHistoric South-Central 0.022434 \*   
## neighbourhood\_cleansedHollywood 0.863505   
## neighbourhood\_cleansedHollywood Hills 0.868006   
## neighbourhood\_cleansedHollywood Hills West 0.824437   
## neighbourhood\_cleansedHuntington Park 0.364050   
## neighbourhood\_cleansedHyde Park 0.150943   
## neighbourhood\_cleansedIndustry 0.345883   
## neighbourhood\_cleansedInglewood 0.250928   
## neighbourhood\_cleansedIrwindale 0.086616 .   
## neighbourhood\_cleansedJefferson Park 0.388141   
## neighbourhood\_cleansedKoreatown 0.361864   
## neighbourhood\_cleansedLa Canada Flintridge 0.866893   
## neighbourhood\_cleansedLa Crescenta-Montrose 0.819734   
## neighbourhood\_cleansedLa Habra Heights 0.910681   
## neighbourhood\_cleansedLa Mirada 0.166673   
## neighbourhood\_cleansedLa Puente 0.314402   
## neighbourhood\_cleansedLa Verne 0.115141   
## neighbourhood\_cleansedLadera Heights 0.818084   
## neighbourhood\_cleansedLake Balboa 0.321278   
## neighbourhood\_cleansedLake Hughes 0.127714   
## neighbourhood\_cleansedLake Los Angeles 0.453041   
## neighbourhood\_cleansedLake View Terrace 0.173770   
## neighbourhood\_cleansedLakewood 0.330931   
## neighbourhood\_cleansedLancaster 0.046625 \*   
## neighbourhood\_cleansedLarchmont 0.736186   
## neighbourhood\_cleansedLawndale 0.194721   
## neighbourhood\_cleansedLeimert Park 0.207681   
## neighbourhood\_cleansedLennox 0.170604   
## neighbourhood\_cleansedLeona Valley 0.642859   
## neighbourhood\_cleansedLincoln Heights 0.650476   
## neighbourhood\_cleansedLomita 0.270566   
## neighbourhood\_cleansedLong Beach 0.534420   
## neighbourhood\_cleansedLopez/Kagel Canyons 0.326865   
## neighbourhood\_cleansedLos Feliz 0.748429   
## neighbourhood\_cleansedLynwood 0.067413 .   
## neighbourhood\_cleansedMalibu 0.870048   
## neighbourhood\_cleansedManchester Square 0.670935   
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## neighbourhood\_cleansedMar Vista 0.585690   
## neighbourhood\_cleansedMarina del Rey 0.319082   
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## neighbourhood\_cleansedMid-Wilshire 0.746399   
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## neighbourhood\_cleansedNorth El Monte 0.411939   
## neighbourhood\_cleansedNorth Hills 0.173790   
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## neighbourhood\_cleansedNorth Whittier 0.940207   
## neighbourhood\_cleansedNortheast Antelope Valley 0.058940 .   
## neighbourhood\_cleansedNorthridge 0.381728   
## neighbourhood\_cleansedNorthwest Antelope Valley 0.047591 \*   
## neighbourhood\_cleansedNorthwest Palmdale 0.040926 \*   
## neighbourhood\_cleansedNorwalk 0.116239   
## neighbourhood\_cleansedPacific Palisades 0.905389   
## neighbourhood\_cleansedPacoima 0.352285   
## neighbourhood\_cleansedPalmdale 0.054293 .   
## neighbourhood\_cleansedPalms 0.461064   
## neighbourhood\_cleansedPalos Verdes Estates 0.859815   
## neighbourhood\_cleansedPanorama City 0.115934   
## neighbourhood\_cleansedParamount 0.566371   
## neighbourhood\_cleansedPasadena 0.666955   
## neighbourhood\_cleansedPico-Robertson 0.768391   
## neighbourhood\_cleansedPico-Union 0.443768   
## neighbourhood\_cleansedPico Rivera 0.146020   
## neighbourhood\_cleansedPlaya del Rey 0.827787   
## neighbourhood\_cleansedPlaya Vista 0.942928   
## neighbourhood\_cleansedPomona 0.185449   
## neighbourhood\_cleansedPorter Ranch 0.461786   
## neighbourhood\_cleansedQuartz Hill 0.124931   
## neighbourhood\_cleansedRancho Dominguez 0.077595 .   
## neighbourhood\_cleansedRancho Palos Verdes 0.364129   
## neighbourhood\_cleansedRancho Park 0.258386   
## neighbourhood\_cleansedRedondo Beach 0.850630   
## neighbourhood\_cleansedReseda 0.292186   
## neighbourhood\_cleansedRidge Route 0.629482   
## neighbourhood\_cleansedRolling Hills 0.218812   
## neighbourhood\_cleansedRolling Hills Estates 0.243147   
## neighbourhood\_cleansedRosemead 0.107242   
## neighbourhood\_cleansedRowland Heights 0.124157   
## neighbourhood\_cleansedSan Dimas 0.163814   
## neighbourhood\_cleansedSan Fernando 0.134552   
## neighbourhood\_cleansedSan Gabriel 0.232084   
## neighbourhood\_cleansedSan Marino 0.679272   
## neighbourhood\_cleansedSan Pasqual 0.396701   
## neighbourhood\_cleansedSan Pedro 0.359106   
## neighbourhood\_cleansedSanta Clarita 0.397202   
## neighbourhood\_cleansedSanta Fe Springs 0.106381   
## neighbourhood\_cleansedSanta Monica 0.777048   
## neighbourhood\_cleansedSawtelle 0.674621   
## neighbourhood\_cleansedSepulveda Basin 0.113840   
## neighbourhood\_cleansedShadow Hills 0.361477   
## neighbourhood\_cleansedSherman Oaks 0.517394   
## neighbourhood\_cleansedSierra Madre 0.665466   
## neighbourhood\_cleansedSignal Hill 0.378935   
## neighbourhood\_cleansedSilver Lake 0.865617   
## neighbourhood\_cleansedSouth Diamond Bar 0.534288   
## neighbourhood\_cleansedSouth El Monte 0.302647   
## neighbourhood\_cleansedSouth Gate 0.460435   
## neighbourhood\_cleansedSouth Park 0.086181 .   
## neighbourhood\_cleansedSouth Pasadena 0.526315   
## neighbourhood\_cleansedSouth San Gabriel 0.088503 .   
## neighbourhood\_cleansedSouth San Jose Hills 0.150665   
## neighbourhood\_cleansedSouth Whittier 0.327322   
## neighbourhood\_cleansedSoutheast Antelope Valley 0.514827   
## neighbourhood\_cleansedStevenson Ranch 0.127984   
## neighbourhood\_cleansedStudio City 0.822877   
## neighbourhood\_cleansedSun Valley 0.486594   
## neighbourhood\_cleansedSun Village 0.534403   
## neighbourhood\_cleansedSunland 0.318720   
## neighbourhood\_cleansedSylmar 0.189739   
## neighbourhood\_cleansedTarzana 0.420223   
## neighbourhood\_cleansedTemple City 0.190593   
## neighbourhood\_cleansedToluca Lake 0.743741   
## neighbourhood\_cleansedTopanga 0.718925   
## neighbourhood\_cleansedTorrance 0.300504   
## neighbourhood\_cleansedTujunga 0.147119   
## neighbourhood\_cleansedTujunga Canyons 0.568314   
## neighbourhood\_cleansedUnincorporated Catalina Island 0.713326   
## neighbourhood\_cleansedUnincorporated Santa Monica Mountains 0.826233   
## neighbourhood\_cleansedUnincorporated Santa Susana Mountains 0.677861   
## neighbourhood\_cleansedUniversal City 0.743615   
## neighbourhood\_cleansedUniversity Park 0.100306   
## neighbourhood\_cleansedVal Verde 0.388957   
## neighbourhood\_cleansedValinda 0.096606 .   
## neighbourhood\_cleansedValley Glen 0.513147   
## neighbourhood\_cleansedValley Village 0.528377   
## neighbourhood\_cleansedVan Nuys 0.296113   
## neighbourhood\_cleansedVenice 0.739787   
## neighbourhood\_cleansedVermont-Slauson 0.273091   
## neighbourhood\_cleansedVermont Knolls 0.138654   
## neighbourhood\_cleansedVermont Square 0.118285   
## neighbourhood\_cleansedVermont Vista 0.290884   
## neighbourhood\_cleansedVernon 0.898977   
## neighbourhood\_cleansedVeterans Administration 0.963499   
## neighbourhood\_cleansedView Park-Windsor Hills 0.576679   
## neighbourhood\_cleansedVincent 0.938959   
## neighbourhood\_cleansedWalnut 0.300413   
## neighbourhood\_cleansedWatts 0.024998 \*   
## neighbourhood\_cleansedWest Adams 0.286852   
## neighbourhood\_cleansedWest Carson 0.327396   
## neighbourhood\_cleansedWest Compton 0.169875   
## neighbourhood\_cleansedWest Covina 0.138107   
## neighbourhood\_cleansedWest Hills 0.384575   
## neighbourhood\_cleansedWest Hollywood 0.864510   
## neighbourhood\_cleansedWest Los Angeles 0.316546   
## neighbourhood\_cleansedWest Puente Valley 0.345145   
## neighbourhood\_cleansedWest Whittier-Los Nietos 0.379302   
## neighbourhood\_cleansedWestchester 0.513573   
## neighbourhood\_cleansedWestlake 0.722832   
## neighbourhood\_cleansedWestlake Village 0.662646   
## neighbourhood\_cleansedWestmont 0.699098   
## neighbourhood\_cleansedWestwood 0.991084   
## neighbourhood\_cleansedWhittier 0.241895   
## neighbourhood\_cleansedWillowbrook 0.486566   
## neighbourhood\_cleansedWilmington 0.172009   
## neighbourhood\_cleansedWindsor Square 0.790439   
## neighbourhood\_cleansedWinnetka 0.397141   
## neighbourhood\_cleansedWoodland Hills 0.453015   
## cleaning\_fee < 2e-16 \*\*\*  
## security\_deposit < 2e-16 \*\*\*  
## review\_scores\_rating 0.001103 \*\*   
## bed\_typeCouch 0.829410   
## bed\_typeFuton 0.315293   
## bed\_typePull-out Sofa 0.177932   
## bed\_typeReal Bed 0.000215 \*\*\*  
## review\_scores\_accuracy 0.711826   
## review\_scores\_checkin 0.025966 \*   
## review\_scores\_cleanliness 1.17e-11 \*\*\*  
## review\_scores\_communication 0.850695   
## review\_scores\_location 8.19e-11 \*\*\*  
## review\_scores\_value 1.36e-08 \*\*\*  
## wifiTRUE 0.000137 \*\*\*  
## parkingTRUE < 2e-16 \*\*\*  
## shampooTRUE < 2e-16 \*\*\*  
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 51.56 on 37382 degrees of freedom  
## Multiple R-squared: 0.368, Adjusted R-squared: 0.3624   
## F-statistic: 66.56 on 327 and 37382 DF, p-value: < 2.2e-16

stepAIC(model,direction="both") #Through backward&forward elimination, we eliminated the attribute review\_score\_accuracy,review\_score\_communication,and superhost

## Start: AIC=297694.3  
## price ~ bedrooms + property\_type + beds + host\_is\_superhost +   
## neighbourhood\_cleansed + cleaning\_fee + security\_deposit +   
## review\_scores\_rating + bed\_type + review\_scores\_accuracy +   
## review\_scores\_checkin + review\_scores\_cleanliness + review\_scores\_communication +   
## review\_scores\_location + review\_scores\_value + wifi + parking +   
## shampoo  
##   
## Df Sum of Sq RSS AIC  
## - review\_scores\_communication 1 94 99393090 297692  
## - review\_scores\_accuracy 1 363 99393358 297692  
## - host\_is\_superhost 1 3521 99396516 297694  
## <none> 99392996 297694  
## - review\_scores\_checkin 1 13184 99406180 297697  
## - review\_scores\_rating 1 28311 99421307 297703  
## - wifi 1 38670 99431665 297707  
## - review\_scores\_value 1 85766 99478761 297725  
## - bed\_type 4 111746 99504742 297729  
## - review\_scores\_location 1 112299 99505295 297735  
## - review\_scores\_cleanliness 1 122456 99515452 297739  
## - parking 1 321094 99714089 297814  
## - security\_deposit 1 448366 99841362 297862  
## - shampoo 1 547470 99940466 297899  
## - beds 1 600280 99993276 297919  
## - property\_type 45 2053186 101446181 298375  
## - neighbourhood\_cleansed 263 7636736 107029732 299960  
## - bedrooms 1 6540593 105933588 300096  
## - cleaning\_fee 1 8143616 107536612 300662  
##   
## Step: AIC=297692.4  
## price ~ bedrooms + property\_type + beds + host\_is\_superhost +   
## neighbourhood\_cleansed + cleaning\_fee + security\_deposit +   
## review\_scores\_rating + bed\_type + review\_scores\_accuracy +   
## review\_scores\_checkin + review\_scores\_cleanliness + review\_scores\_location +   
## review\_scores\_value + wifi + parking + shampoo  
##   
## Df Sum of Sq RSS AIC  
## - review\_scores\_accuracy 1 303 99393393 297690  
## - host\_is\_superhost 1 3517 99396607 297692  
## <none> 99393090 297692  
## + review\_scores\_communication 1 94 99392996 297694  
## - review\_scores\_checkin 1 15644 99408734 297696  
## - review\_scores\_rating 1 28244 99421334 297701  
## - wifi 1 38658 99431748 297705  
## - review\_scores\_value 1 86601 99479691 297723  
## - bed\_type 4 111684 99504774 297727  
## - review\_scores\_location 1 113984 99507074 297734  
## - review\_scores\_cleanliness 1 123614 99516704 297737  
## - parking 1 321085 99714174 297812  
## - security\_deposit 1 448536 99841625 297860  
## - shampoo 1 547609 99940699 297898  
## - beds 1 600265 99993354 297917  
## - property\_type 45 2053139 101446229 298373  
## - neighbourhood\_cleansed 263 7636642 107029732 299958  
## - bedrooms 1 6540899 105933989 300094  
## - cleaning\_fee 1 8143539 107536629 300660  
##   
## Step: AIC=297690.5  
## price ~ bedrooms + property\_type + beds + host\_is\_superhost +   
## neighbourhood\_cleansed + cleaning\_fee + security\_deposit +   
## review\_scores\_rating + bed\_type + review\_scores\_checkin +   
## review\_scores\_cleanliness + review\_scores\_location + review\_scores\_value +   
## wifi + parking + shampoo  
##   
## Df Sum of Sq RSS AIC  
## - host\_is\_superhost 1 3577 99396970 297690  
## <none> 99393393 297690  
## + review\_scores\_accuracy 1 303 99393090 297692  
## + review\_scores\_communication 1 34 99393358 297692  
## - review\_scores\_checkin 1 18294 99411687 297695  
## - review\_scores\_rating 1 28109 99421502 297699  
## - wifi 1 38697 99432090 297703  
## - bed\_type 4 111621 99505013 297725  
## - review\_scores\_value 1 106845 99500238 297729  
## - review\_scores\_location 1 114531 99507923 297732  
## - review\_scores\_cleanliness 1 131146 99524538 297738  
## - parking 1 320953 99714346 297810  
## - security\_deposit 1 448339 99841731 297858  
## - shampoo 1 547717 99941110 297896  
## - beds 1 600136 99993529 297915  
## - property\_type 45 2052939 101446332 298371  
## - neighbourhood\_cleansed 263 7636508 107029900 299956  
## - bedrooms 1 6542629 105936021 300092  
## - cleaning\_fee 1 8143238 107536630 300658  
##   
## Step: AIC=297689.8  
## price ~ bedrooms + property\_type + beds + neighbourhood\_cleansed +   
## cleaning\_fee + security\_deposit + review\_scores\_rating +   
## bed\_type + review\_scores\_checkin + review\_scores\_cleanliness +   
## review\_scores\_location + review\_scores\_value + wifi + parking +   
## shampoo  
##   
## Df Sum of Sq RSS AIC  
## <none> 99396970 297690  
## + host\_is\_superhost 1 3577 99393393 297690  
## + review\_scores\_accuracy 1 363 99396607 297692  
## + review\_scores\_communication 1 28 99396942 297692  
## - review\_scores\_checkin 1 18558 99415528 297695  
## - review\_scores\_rating 1 25317 99422287 297697  
## - wifi 1 39685 99436655 297703  
## - bed\_type 4 111097 99508067 297724  
## - review\_scores\_value 1 108497 99505468 297729  
## - review\_scores\_location 1 114674 99511644 297731  
## - review\_scores\_cleanliness 1 128318 99525289 297736  
## - parking 1 317380 99714350 297808  
## - security\_deposit 1 445874 99842844 297857  
## - shampoo 1 545755 99942725 297894  
## - beds 1 598713 99995683 297914  
## - property\_type 45 2049374 101446344 298369  
## - neighbourhood\_cleansed 263 7634492 107031462 299954  
## - bedrooms 1 6556098 105953068 300097  
## - cleaning\_fee 1 8139698 107536668 300656

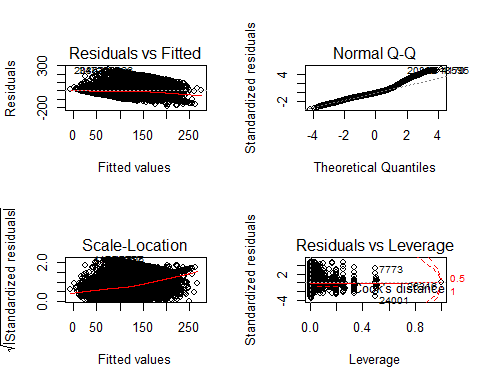
##   
## Call:  
## lm(formula = price ~ bedrooms + property\_type + beds + neighbourhood\_cleansed +   
## cleaning\_fee + security\_deposit + review\_scores\_rating +   
## bed\_type + review\_scores\_checkin + review\_scores\_cleanliness +   
## review\_scores\_location + review\_scores\_value + wifi + parking +   
## shampoo, data = data)  
##   
## Coefficients:  
## (Intercept)   
## 5.39015   
## bedrooms   
## 22.00121   
## property\_typeApartment   
## -16.43827   
## property\_typeBarn   
## -25.87684   
## property\_typeBed and breakfast   
## -22.38439   
## property\_typeBoat   
## -21.85727   
## property\_typeBoutique hotel   
## 19.74254   
## property\_typeBungalow   
## -15.96405   
## property\_typeBus   
## 74.13145   
## property\_typeCabin   
## 3.07885   
## property\_typeCamper/RV   
## -11.17035   
## property\_typeCampsite   
## -35.24624   
## property\_typeCasa particular (Cuba)   
## -35.47901   
## property\_typeCastle   
## -4.86381   
## property\_typeCave   
## -20.79705   
## property\_typeChalet   
## -77.54176   
## property\_typeCondominium   
## -15.11049   
## property\_typeCottage   
## -6.62647   
## property\_typeDome house   
## -46.19099   
## property\_typeDorm   
## -77.05531   
## property\_typeEarth house   
## -9.49491   
## property\_typeFarm stay   
## -15.76304   
## property\_typeGuest suite   
## -16.33798   
## property\_typeGuesthouse   
## -5.16024   
## property\_typeHostel   
## -46.97898   
## property\_typeHotel   
## 18.75502   
## property\_typeHouse   
## -23.69906   
## property\_typeHouseboat   
## -62.06706   
## property\_typeHut   
## -57.37264   
## property\_typeIgloo   
## -54.75036   
## property\_typeIsland   
## -61.31124   
## property\_typeLoft   
## -3.96908   
## property\_typeMinsu (Taiwan)   
## -45.50909   
## property\_typeNature lodge   
## -70.20729   
## property\_typeOther   
## -0.07646   
## property\_typePension (South Korea)   
## -18.62323   
## property\_typeResort   
## 92.56837   
## property\_typeServiced apartment   
## 10.19457   
## property\_typeTent   
## 3.97594   
## property\_typeTiny house   
## -10.88112   
## property\_typeTipi   
## -0.47108   
## property\_typeTownhouse   
## -21.93706   
## property\_typeTrain   
## 7.14197   
## property\_typeTreehouse   
## 22.09403   
## property\_typeVacation home   
## -74.82869   
## property\_typeVilla   
## -21.91705   
## property\_typeYurt   
## -30.07523   
## beds   
## 6.28481   
## neighbourhood\_cleansedAdams-Normandie   
## -15.83386   
## neighbourhood\_cleansedAgoura Hills   
## -7.65658   
## neighbourhood\_cleansedAgua Dulce   
## -0.44556   
## neighbourhood\_cleansedAlhambra   
## -30.71604   
## neighbourhood\_cleansedAlondra Park   
## -19.96035   
## neighbourhood\_cleansedAltadena   
## -20.64792   
## neighbourhood\_cleansedAngeles Crest   
## -53.36914   
## neighbourhood\_cleansedArcadia   
## -29.16853   
## neighbourhood\_cleansedArleta   
## -53.11222   
## neighbourhood\_cleansedArlington Heights   
## -47.79714   
## neighbourhood\_cleansedArtesia   
## -36.20938   
## neighbourhood\_cleansedAthens   
## -24.72218   
## neighbourhood\_cleansedAtwater Village   
## -12.69952   
## neighbourhood\_cleansedAvalon   
## -9.34777   
## neighbourhood\_cleansedAvocado Heights   
## -27.89860   
## neighbourhood\_cleansedAzusa   
## -21.92673   
## neighbourhood\_cleansedBaldwin Hills/Crenshaw   
## -27.08856   
## neighbourhood\_cleansedBaldwin Park   
## -26.86974   
## neighbourhood\_cleansedBel-Air   
## -6.47292   
## neighbourhood\_cleansedBell   
## -34.80658   
## neighbourhood\_cleansedBell Gardens   
## -30.35486   
## neighbourhood\_cleansedBellflower   
## -38.24707   
## neighbourhood\_cleansedBeverly Crest   
## -9.02639   
## neighbourhood\_cleansedBeverly Grove   
## 11.26121   
## neighbourhood\_cleansedBeverly Hills   
## 2.57645   
## neighbourhood\_cleansedBeverlywood   
## -28.10471   
## neighbourhood\_cleansedBoyle Heights   
## -28.10622   
## neighbourhood\_cleansedBradbury   
## -4.07153   
## neighbourhood\_cleansedBrentwood   
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## neighbourhood\_cleansedBroadway-Manchester   
## -37.61914   
## neighbourhood\_cleansedBurbank   
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## neighbourhood\_cleansedCalabasas   
## -19.49095   
## neighbourhood\_cleansedCanoga Park   
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## neighbourhood\_cleansedCarson   
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## neighbourhood\_cleansedCarthay   
## 0.06366   
## neighbourhood\_cleansedCastaic   
## -43.84582   
## neighbourhood\_cleansedCastaic Canyons   
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## neighbourhood\_cleansedCentral-Alameda   
## -40.96901   
## neighbourhood\_cleansedCentury City   
## -0.11967   
## neighbourhood\_cleansedCerritos   
## -40.26188   
## neighbourhood\_cleansedCharter Oak   
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## neighbourhood\_cleansedChatsworth Reservoir   
## 87.11605   
## neighbourhood\_cleansedChesterfield Square   
## -51.80795   
## neighbourhood\_cleansedCheviot Hills   
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## neighbourhood\_cleansedChinatown   
## -19.15110   
## neighbourhood\_cleansedCitrus   
## -12.04509   
## neighbourhood\_cleansedClaremont   
## -11.50417   
## neighbourhood\_cleansedCommerce   
## -2.83440   
## neighbourhood\_cleansedCompton   
## -19.21658   
## neighbourhood\_cleansedCovina   
## -35.35676   
## neighbourhood\_cleansedCudahy   
## -106.05354   
## neighbourhood\_cleansedCulver City   
## -3.00263   
## neighbourhood\_cleansedCypress Park   
## -44.51910   
## neighbourhood\_cleansedDel Aire   
## -19.84950   
## neighbourhood\_cleansedDel Rey   
## 5.31923   
## neighbourhood\_cleansedDesert View Highlands   
## 5.02523   
## neighbourhood\_cleansedDiamond Bar   
## -30.76417   
## neighbourhood\_cleansedDowney   
## -32.32935   
## neighbourhood\_cleansedDowntown   
## 10.45458   
## neighbourhood\_cleansedDuarte   
## -38.16889   
## neighbourhood\_cleansedEagle Rock   
## -20.29508   
## neighbourhood\_cleansedEast Compton   
## -35.23616   
## neighbourhood\_cleansedEast Hollywood   
## -29.58857   
## neighbourhood\_cleansedEast Los Angeles   
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## neighbourhood\_cleansedEast Pasadena   
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## neighbourhood\_cleansedEast San Gabriel   
## -47.06951   
## neighbourhood\_cleansedEast Whittier   
## 8.84249   
## neighbourhood\_cleansedEcho Park   
## -13.94054   
## neighbourhood\_cleansedEl Monte   
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## neighbourhood\_cleansedEl Segundo   
## -14.72738   
## neighbourhood\_cleansedEl Sereno   
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## -14.38585   
## neighbourhood\_cleansedElysian Valley   
## -10.93291   
## neighbourhood\_cleansedEncino   
## -20.97051   
## neighbourhood\_cleansedExposition Park   
## -17.16879   
## neighbourhood\_cleansedFairfax   
## -3.35995   
## neighbourhood\_cleansedFlorence   
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## neighbourhood\_cleansedFlorence-Firestone   
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## neighbourhood\_cleansedGardena   
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## neighbourhood\_cleansedGlassell Park   
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## neighbourhood\_cleansedGramercy Park   
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## neighbourhood\_cleansedGranada Hills   
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## neighbourhood\_cleansedGreen Meadows   
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## neighbourhood\_cleansedGreen Valley   
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## neighbourhood\_cleansedGriffith Park   
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## neighbourhood\_cleansedHacienda Heights   
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## neighbourhood\_cleansedHancock Park   
## -2.91245   
## neighbourhood\_cleansedHarbor City   
## -23.43779   
## neighbourhood\_cleansedHarbor Gateway   
## -48.53699   
## neighbourhood\_cleansedHarvard Heights   
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## neighbourhood\_cleansedHarvard Park   
## -68.18525   
## neighbourhood\_cleansedHasley Canyon   
## -27.88667   
## neighbourhood\_cleansedHawaiian Gardens   
## -48.38877   
## neighbourhood\_cleansedHawthorne   
## -38.88605   
## neighbourhood\_cleansedHermosa Beach   
## 1.03126   
## neighbourhood\_cleansedHighland Park   
## -23.98364   
## neighbourhood\_cleansedHistoric South-Central   
## -60.76739   
## neighbourhood\_cleansedHollywood   
## -4.43577   
## neighbourhood\_cleansedHollywood Hills   
## -4.26484   
## neighbourhood\_cleansedHollywood Hills West   
## -5.73675   
## neighbourhood\_cleansedHuntington Park   
## -29.45077   
## neighbourhood\_cleansedHyde Park   
## -38.01612   
## neighbourhood\_cleansedIndustry   
## -25.46701   
## neighbourhood\_cleansedInglewood   
## -29.95812   
## neighbourhood\_cleansedIrwindale   
## -57.44617   
## neighbourhood\_cleansedJefferson Park   
## -23.04733   
## neighbourhood\_cleansedKoreatown   
## -23.64693   
## neighbourhood\_cleansedLa Canada Flintridge   
## -4.45151   
## neighbourhood\_cleansedLa Crescenta-Montrose   
## -6.39885   
## neighbourhood\_cleansedLa Habra Heights   
## -2.98563   
## neighbourhood\_cleansedLa Mirada   
## -41.99605   
## neighbourhood\_cleansedLa Puente   
## -29.56509   
## neighbourhood\_cleansedLa Verne   
## -42.62305   
## neighbourhood\_cleansedLadera Heights   
## -6.18934   
## neighbourhood\_cleansedLake Balboa   
## -26.44420   
## neighbourhood\_cleansedLake Hughes   
## 68.32055   
## neighbourhood\_cleansedLake Los Angeles   
## -25.98400   
## neighbourhood\_cleansedLake View Terrace   
## -53.96691   
## neighbourhood\_cleansedLakewood   
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## neighbourhood\_cleansedLancaster   
## -52.51360   
## neighbourhood\_cleansedLarchmont   
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## neighbourhood\_cleansedLawndale   
## -34.35901   
## neighbourhood\_cleansedLeimert Park   
## -33.81444   
## neighbourhood\_cleansedLennox   
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## neighbourhood\_cleansedLeona Valley   
## -15.38740   
## neighbourhood\_cleansedLincoln Heights   
## -12.07674   
## neighbourhood\_cleansedLomita   
## -30.45243   
## neighbourhood\_cleansedLong Beach   
## -16.14727   
## neighbourhood\_cleansedLopez/Kagel Canyons   
## -38.55914   
## neighbourhood\_cleansedLos Feliz   
## -8.34424   
## neighbourhood\_cleansedLynwood   
## -51.47219   
## neighbourhood\_cleansedMalibu   
## -4.26295   
## neighbourhood\_cleansedManchester Square   
## -12.06955   
## neighbourhood\_cleansedManhattan Beach   
## 5.39635   
## neighbourhood\_cleansedMar Vista   
## -14.20435   
## neighbourhood\_cleansedMarina del Rey   
## 26.15261   
## neighbourhood\_cleansedMayflower Village   
## -44.74480   
## neighbourhood\_cleansedMaywood   
## -39.87788   
## neighbourhood\_cleansedMid-City   
## -19.54049   
## neighbourhood\_cleansedMid-Wilshire   
## -8.35154   
## neighbourhood\_cleansedMission Hills   
## -20.72665   
## neighbourhood\_cleansedMonrovia   
## -19.61050   
## neighbourhood\_cleansedMontebello   
## -28.95644   
## neighbourhood\_cleansedMontecito Heights   
## -16.28991   
## neighbourhood\_cleansedMonterey Park   
## -27.33407   
## neighbourhood\_cleansedMount Washington   
## -14.15061   
## neighbourhood\_cleansedNorth El Monte   
## -23.54148   
## neighbourhood\_cleansedNorth Hills   
## -36.44320   
## neighbourhood\_cleansedNorth Hollywood   
## -22.75524   
## neighbourhood\_cleansedNorth Whittier   
## -2.89199   
## neighbourhood\_cleansedNortheast Antelope Valley   
## -60.97427   
## neighbourhood\_cleansedNorthridge   
## -23.07316   
## neighbourhood\_cleansedNorthwest Antelope Valley   
## -72.66367   
## neighbourhood\_cleansedNorthwest Palmdale   
## -64.70763   
## neighbourhood\_cleansedNorwalk   
## -42.48594   
## neighbourhood\_cleansedPacific Palisades   
## -3.09651   
## neighbourhood\_cleansedPacoima   
## -26.92076   
## neighbourhood\_cleansedPalmdale   
## -50.96617   
## neighbourhood\_cleansedPalms   
## -19.17100   
## neighbourhood\_cleansedPalos Verdes Estates   
## 5.41124   
## neighbourhood\_cleansedPanorama City   
## -43.71612   
## neighbourhood\_cleansedParamount   
## -17.52301   
## neighbourhood\_cleansedPasadena   
## -11.24986   
## neighbourhood\_cleansedPico-Robertson   
## -7.61845   
## neighbourhood\_cleansedPico-Union   
## -20.14399   
## neighbourhood\_cleansedPico Rivera   
## -39.53932   
## neighbourhood\_cleansedPlaya del Rey   
## -5.72443   
## neighbourhood\_cleansedPlaya Vista   
## 1.92201   
## neighbourhood\_cleansedPomona   
## -34.74632   
## neighbourhood\_cleansedPorter Ranch   
## -20.73107   
## neighbourhood\_cleansedQuartz Hill   
## -50.06874   
## neighbourhood\_cleansedRancho Dominguez   
## -61.25444   
## neighbourhood\_cleansedRancho Palos Verdes   
## -24.08522   
## neighbourhood\_cleansedRancho Park   
## -30.08619   
## neighbourhood\_cleansedRedondo Beach   
## -4.86465   
## neighbourhood\_cleansedReseda   
## -27.55879   
## neighbourhood\_cleansedRidge Route   
## -28.21268   
## neighbourhood\_cleansedRolling Hills   
## -40.94097   
## neighbourhood\_cleansedRolling Hills Estates   
## 40.66060   
## neighbourhood\_cleansedRosemead   
## -42.29153   
## neighbourhood\_cleansedRowland Heights   
## -39.92612   
## neighbourhood\_cleansedSan Dimas   
## -37.58679   
## neighbourhood\_cleansedSan Fernando   
## -45.57716   
## neighbourhood\_cleansedSan Gabriel   
## -31.23804   
## neighbourhood\_cleansedSan Marino   
## -12.13996   
## neighbourhood\_cleansedSan Pasqual   
## -23.66413   
## neighbourhood\_cleansedSan Pedro   
## -24.12842   
## neighbourhood\_cleansedSanta Clarita   
## -22.26074   
## neighbourhood\_cleansedSanta Fe Springs   
## -63.40535   
## neighbourhood\_cleansedSanta Monica   
## 7.21595   
## neighbourhood\_cleansedSawtelle   
## -10.92750   
## neighbourhood\_cleansedSepulveda Basin   
## 54.82811   
## neighbourhood\_cleansedShadow Hills   
## -24.91730   
## neighbourhood\_cleansedSherman Oaks   
## -16.83892   
## neighbourhood\_cleansedSierra Madre   
## -12.10451   
## neighbourhood\_cleansedSignal Hill   
## -23.91682   
## neighbourhood\_cleansedSilver Lake   
## -4.44366   
## neighbourhood\_cleansedSouth Diamond Bar   
## -35.87020   
## neighbourhood\_cleansedSouth El Monte   
## -37.59910   
## neighbourhood\_cleansedSouth Gate   
## -20.64987   
## neighbourhood\_cleansedSouth Park   
## -49.93981   
## neighbourhood\_cleansedSouth Pasadena   
## -16.72694   
## neighbourhood\_cleansedSouth San Gabriel   
## -46.35032   
## neighbourhood\_cleansedSouth San Jose Hills   
## -44.62408   
## neighbourhood\_cleansedSouth Whittier   
## -28.10751   
## neighbourhood\_cleansedSoutheast Antelope Valley   
## -19.30909   
## neighbourhood\_cleansedStevenson Ranch   
## -46.00657   
## neighbourhood\_cleansedStudio City   
## -5.78011   
## neighbourhood\_cleansedSun Valley   
## -18.35675   
## neighbourhood\_cleansedSun Village   
## -20.87564   
## neighbourhood\_cleansedSunland   
## -30.68510   
## neighbourhood\_cleansedSylmar   
## -36.32912   
## neighbourhood\_cleansedTarzana   
## -21.08429   
## neighbourhood\_cleansedTemple City   
## -34.35925   
## neighbourhood\_cleansedToluca Lake   
## -8.59335   
## neighbourhood\_cleansedTopanga   
## 9.34370   
## neighbourhood\_cleansedTorrance   
## -26.98468   
## neighbourhood\_cleansedTujunga   
## -40.09372   
## neighbourhood\_cleansedTujunga Canyons   
## 19.79924   
## neighbourhood\_cleansedUnincorporated Catalina Island   
## -13.01201   
## neighbourhood\_cleansedUnincorporated Santa Monica Mountains   
## -5.72678   
## neighbourhood\_cleansedUnincorporated Santa Susana Mountains   
## -12.16923   
## neighbourhood\_cleansedUniversal City   
## -13.37942   
## neighbourhood\_cleansedUniversity Park   
## -43.74646   
## neighbourhood\_cleansedVal Verde   
## -31.15649   
## neighbourhood\_cleansedValinda   
## -47.06099   
## neighbourhood\_cleansedValley Glen   
## -17.21864   
## neighbourhood\_cleansedValley Village   
## -16.57559   
## neighbourhood\_cleansedVan Nuys   
## -27.26219   
## neighbourhood\_cleansedVenice   
## 8.59123   
## neighbourhood\_cleansedVermont-Slauson   
## -31.19017   
## neighbourhood\_cleansedVermont Knolls   
## -42.39125   
## neighbourhood\_cleansedVermont Square   
## -41.26216   
## neighbourhood\_cleansedVermont Vista   
## -36.71552   
## neighbourhood\_cleansedVernon   
## 5.17474   
## neighbourhood\_cleansedVeterans Administration   
## 1.56175   
## neighbourhood\_cleansedView Park-Windsor Hills   
## -14.76301   
## neighbourhood\_cleansedVincent   
## 3.01845   
## neighbourhood\_cleansedWalnut   
## -27.21961   
## neighbourhood\_cleansedWatts   
## -62.02839   
## neighbourhood\_cleansedWest Adams   
## -28.21392   
## neighbourhood\_cleansedWest Carson   
## -26.67089   
## neighbourhood\_cleansedWest Compton   
## -47.39550   
## neighbourhood\_cleansedWest Covina   
## -39.01929   
## neighbourhood\_cleansedWest Hills   
## -22.96234   
## neighbourhood\_cleansedWest Hollywood   
## 4.45484   
## neighbourhood\_cleansedWest Los Angeles   
## -26.20567   
## neighbourhood\_cleansedWest Puente Valley   
## -27.78644   
## neighbourhood\_cleansedWest Whittier-Los Nietos   
## -27.44907   
## neighbourhood\_cleansedWestchester   
## -17.04234   
## neighbourhood\_cleansedWestlake   
## -9.13273   
## neighbourhood\_cleansedWestlake Village   
## 13.29892   
## neighbourhood\_cleansedWestmont   
## -10.61630   
## neighbourhood\_cleansedWestwood   
## -0.27526   
## neighbourhood\_cleansedWhittier   
## -31.18915   
## neighbourhood\_cleansedWillowbrook   
## -19.87612   
## neighbourhood\_cleansedWilmington   
## -37.71148   
## neighbourhood\_cleansedWindsor Square   
## -7.09455   
## neighbourhood\_cleansedWinnetka   
## -22.51026   
## neighbourhood\_cleansedWoodland Hills   
## -19.56498   
## cleaning\_fee   
## 0.32949   
## security\_deposit   
## 0.02388   
## review\_scores\_rating   
## 0.25176   
## bed\_typeCouch   
## -1.95243   
## bed\_typeFuton   
## 7.55960   
## bed\_typePull-out Sofa   
## 11.25248   
## bed\_typeReal Bed   
## 22.82597   
## review\_scores\_checkin   
## -1.37636   
## review\_scores\_cleanliness   
## 2.97738   
## review\_scores\_location   
## 3.66292   
## review\_scores\_value   
## -3.23221   
## wifiTRUE   
## -7.08269   
## parkingTRUE   
## 8.83455   
## shampooTRUE   
## 10.05607

model<-lm(price ~ bedrooms + property\_type + beds + neighbourhood\_cleansed + cleaning\_fee + security\_deposit + review\_scores\_rating + bed\_type + review\_scores\_checkin + review\_scores\_cleanliness + review\_scores\_location + review\_scores\_value + wifi + parking + shampoo, data = data) # new model due to Backward &Forward Elimination  
  
par(mfrow=c(2,2))#Easier to look at the plots in a 2x2 window  
plot(model)

## Warning: not plotting observations with leverage one:  
## 15268, 25910, 31768, 36640

## Warning: not plotting observations with leverage one:  
## 15268, 25910, 31768, 36640

## Warning in sqrt(crit \* p \* (1 - hh)/hh): NaNs produced  
  
## Warning in sqrt(crit \* p \* (1 - hh)/hh): NaNs produced

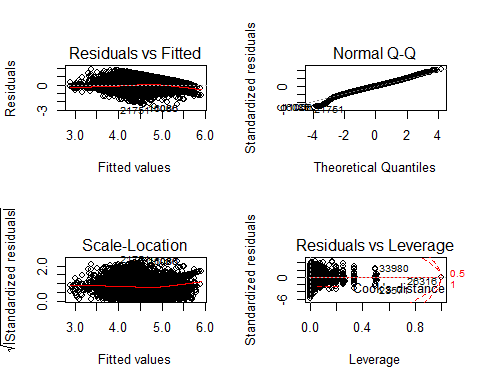


#Based on the plots, it looks like there isn't constant variance, but the other assumptions are upheld   
#To address this I transformed the dependent variable by taking the natural log of the price  
  
  
model<-lm(log(price)~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+  
 review\_scores\_rating+bed\_type+review\_scores\_checkin+review\_scores\_cleanliness  
 +review\_scores\_location+review\_scores\_value+wifi+parking+shampoo,data=data)  
  
  
plot(model)

## Warning: not plotting observations with leverage one:  
## 15268, 25910, 31768, 36640

## Warning: not plotting observations with leverage one:  
## 15268, 25910, 31768, 36640

## Warning in sqrt(crit \* p \* (1 - hh)/hh): NaNs produced  
  
## Warning in sqrt(crit \* p \* (1 - hh)/hh): NaNs produced

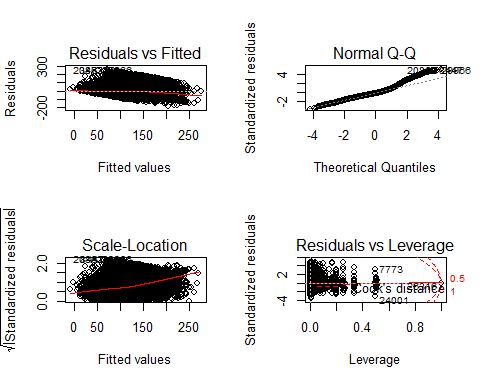


In addition, I created a variation to the above model, since the context of the problem is to help new properties determine their price per night, it wouldn’t make sense for them to have a ratings on AirBnb.

model2<-lm(price~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+bed\_type+wifi+parking+shampoo,data=data)  
par(mfrow=c(2,2))#Easier to look at the plots in a 2x2 window  
plot(model2)

## Warning: not plotting observations with leverage one:  
## 15268, 25910, 31768, 36640  
  
## Warning: not plotting observations with leverage one:  
## 15268, 25910, 31768, 36640

## Warning in sqrt(crit \* p \* (1 - hh)/hh): NaNs produced  
  
## Warning in sqrt(crit \* p \* (1 - hh)/hh): NaNs produced

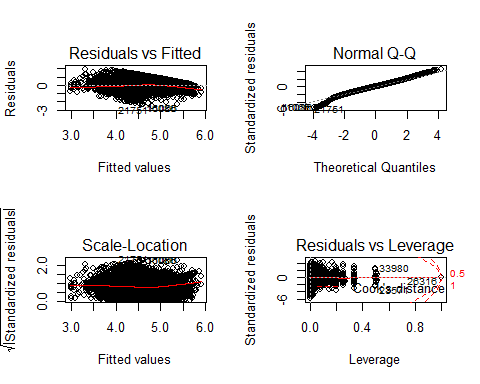


#Again, need to log the price as there isn't constant variance and for a better model  
  
model2<-lm(log(price)~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+bed\_type+wifi+parking+shampoo,data=data)  
plot(model2)

## Warning: not plotting observations with leverage one:  
## 15268, 25910, 31768, 36640

## Warning: not plotting observations with leverage one:  
## 15268, 25910, 31768, 36640

## Warning in sqrt(crit \* p \* (1 - hh)/hh): NaNs produced  
  
## Warning in sqrt(crit \* p \* (1 - hh)/hh): NaNs produced



Spliting the dataset into a training set and test set by using 10 fold cross validation on the training set. Then create models using the 10 fold cross validation. The benefit of 10 fold cross validation is that it will create a different test set and training set at each fold, but will end up using the entire dataset to be tested and trained.Since we are comparing different models,setting a seed is a must since we want to have the same test set and training set each time the model is being trained using 10 fold cross validation.

It seems that the dataset provided by insideairbnb website doesn’t show when they host actually put up their listing, but provides when they scraped the listing off of the website. I also checked actual AirBnb website as well,there’s no way to find out the actual time they put up the listing.However, I do find it important to know when they scraped off the listing, since it means that, that was the price per night of their listing on the date of the scraping, which means that the host still thought that their property was worth that much at the time of the scrap and market conditions are still represented at the time of the scraping.

Multivariable Linear Regression with 10 Fold Cross Validation

library(caret)

## Warning: package 'caret' was built under R version 3.6.3

## Loading required package: lattice

## Loading required package: ggplot2

set.seed(777)  
train\_cv<-trainControl(method="cv",number=10,savePredictions = TRUE) #10 fold cross validation  
  
model\_cv<-train(log(price)~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+  
 review\_scores\_rating+bed\_type+review\_scores\_checkin+review\_scores\_cleanliness  
 +review\_scores\_location+review\_scores\_value+wifi+parking+shampoo,data=data,trControl=train\_cv,method="lm")

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading  
  
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## fit may be misleading  
  
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading

model\_cv

## Linear Regression   
##   
## 37710 samples  
## 15 predictor  
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold)   
## Summary of sample sizes: 33940, 33940, 33940, 33938, 33937, 33938, ...   
## Resampling results:  
##   
## RMSE Rsquared MAE   
## 0.4403138 0.4206577 0.3434062  
##   
## Tuning parameter 'intercept' was held constant at a value of TRUE

#We have three metrics we can look at for our model, RMSE,R2,and MAE on the test sets created by 10 Fold Cross Validation  
  
  
  
#The model variation we did above, I will do again with 10 fold cross validation  
set.seed(777)  
model2\_cv<-train(log(price)~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+bed\_type+wifi+parking+shampoo,data=data,trControl=train\_cv,method="lm")

## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading  
  
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading  
  
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading  
  
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading  
  
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading  
  
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading  
  
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading  
  
## Warning in predict.lm(modelFit, newdata): prediction from a rank-deficient  
## fit may be misleading

model2\_cv

## Linear Regression   
##   
## 37710 samples  
## 10 predictor  
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold)   
## Summary of sample sizes: 33940, 33940, 33940, 33938, 33937, 33938, ...   
## Resampling results:  
##   
## RMSE Rsquared MAE   
## 0.441767 0.416817 0.3444993  
##   
## Tuning parameter 'intercept' was held constant at a value of TRUE

Summary of the multivariable linear regression model

summary(model\_cv)

##   
## Call:  
## lm(formula = .outcome ~ ., data = dat)  
##   
## Residuals:  
## Min 1Q Median 3Q Max   
## -2.51677 -0.27771 0.00668 0.27850 1.81969   
##   
## Coefficients:  
## Estimate  
## (Intercept) 3.398e+00  
## bedrooms 1.650e-01  
## property\_typeApartment -1.331e-01  
## property\_typeBarn -1.947e-01  
## `property\_typeBed and breakfast` -2.259e-01  
## property\_typeBoat -1.911e-01  
## `property\_typeBoutique hotel` 1.937e-01  
## property\_typeBungalow -1.805e-01  
## property\_typeBus 2.723e-01  
## property\_typeCabin -1.569e-02  
## `property\_typeCamper/RV` -1.839e-01  
## property\_typeCampsite -6.790e-01  
## `property\_typeCasa particular (Cuba)` -1.992e-01  
## property\_typeCastle -7.704e-02  
## property\_typeCave -1.274e-01  
## property\_typeChalet -6.648e-01  
## property\_typeCondominium -1.509e-01  
## property\_typeCottage -8.357e-02  
## `property\_typeDome house` -6.226e-01  
## property\_typeDorm -1.272e+00  
## `property\_typeEarth house` -9.254e-02  
## `property\_typeFarm stay` -2.047e-01  
## `property\_typeGuest suite` -1.311e-01  
## property\_typeGuesthouse -2.232e-02  
## property\_typeHostel -4.921e-01  
## property\_typeHotel 1.544e-01  
## property\_typeHouse -2.661e-01  
## property\_typeHouseboat -3.776e-01  
## property\_typeHut -6.315e-01  
## property\_typeIgloo -3.340e-01  
## property\_typeIsland -4.161e-01  
## property\_typeLoft -2.055e-02  
## `property\_typeMinsu (Taiwan)` -3.665e-01  
## `property\_typeNature lodge` -7.124e-01  
## property\_typeOther 8.060e-03  
## `property\_typePension (South Korea)` -1.056e-01  
## property\_typeResort 4.842e-01  
## `property\_typeServiced apartment` 9.106e-02  
## property\_typeTent -1.338e-01  
## `property\_typeTiny house` -1.094e-01  
## property\_typeTipi -7.095e-02  
## property\_typeTownhouse -2.451e-01  
## property\_typeTrain 1.674e-02  
## property\_typeTreehouse 1.418e-01  
## `property\_typeVacation home` -5.458e-01  
## property\_typeVilla -1.916e-01  
## property\_typeYurt -1.989e-01  
## beds 7.108e-02  
## `neighbourhood\_cleansedAdams-Normandie` -2.668e-01  
## `neighbourhood\_cleansedAgoura Hills` -8.401e-02  
## `neighbourhood\_cleansedAgua Dulce` -1.367e-02  
## neighbourhood\_cleansedAlhambra -3.733e-01  
## `neighbourhood\_cleansedAlondra Park` -2.670e-01  
## neighbourhood\_cleansedAltadena -2.096e-01  
## `neighbourhood\_cleansedAngeles Crest` -4.670e-01  
## neighbourhood\_cleansedArcadia -3.069e-01  
## neighbourhood\_cleansedArleta -6.126e-01  
## `neighbourhood\_cleansedArlington Heights` -6.600e-01  
## neighbourhood\_cleansedArtesia -3.500e-01  
## neighbourhood\_cleansedAthens -2.141e-01  
## `neighbourhood\_cleansedAtwater Village` -1.285e-01  
## neighbourhood\_cleansedAvalon -8.728e-02  
## `neighbourhood\_cleansedAvocado Heights` -4.915e-01  
## neighbourhood\_cleansedAzusa -3.217e-01  
## `neighbourhood\_cleansedBaldwin Hills/Crenshaw` -2.924e-01  
## `neighbourhood\_cleansedBaldwin Park` -3.320e-01  
## `neighbourhood\_cleansedBel-Air` 1.113e-02  
## neighbourhood\_cleansedBell -3.422e-01  
## `neighbourhood\_cleansedBell Gardens` -4.384e-01  
## neighbourhood\_cleansedBellflower -4.272e-01  
## `neighbourhood\_cleansedBeverly Crest` -1.779e-02  
## `neighbourhood\_cleansedBeverly Grove` 3.972e-02  
## `neighbourhood\_cleansedBeverly Hills` 5.346e-03  
## neighbourhood\_cleansedBeverlywood -2.633e-01  
## `neighbourhood\_cleansedBoyle Heights` -3.688e-01  
## neighbourhood\_cleansedBradbury -6.556e-02  
## neighbourhood\_cleansedBrentwood -3.533e-02  
## `neighbourhood\_cleansedBroadway-Manchester` -3.674e-01  
## neighbourhood\_cleansedBurbank -1.802e-01  
## neighbourhood\_cleansedCalabasas -1.980e-01  
## `neighbourhood\_cleansedCanoga Park` -3.572e-01  
## neighbourhood\_cleansedCarson -4.090e-01  
## neighbourhood\_cleansedCarthay -1.116e-02  
## neighbourhood\_cleansedCastaic -4.365e-01  
## `neighbourhood\_cleansedCastaic Canyons` -3.001e-01  
## `neighbourhood\_cleansedCentral-Alameda` -5.862e-01  
## `neighbourhood\_cleansedCentury City` -6.410e-03  
## neighbourhood\_cleansedCerritos -4.834e-01  
## `neighbourhood\_cleansedCharter Oak` -7.319e-01  
## neighbourhood\_cleansedChatsworth -2.327e-01  
## `neighbourhood\_cleansedChatsworth Reservoir` 3.974e-01  
## `neighbourhood\_cleansedChesterfield Square` -6.948e-01  
## `neighbourhood\_cleansedCheviot Hills` -1.459e-01  
## neighbourhood\_cleansedChinatown -2.594e-01  
## neighbourhood\_cleansedCitrus -4.339e-01  
## neighbourhood\_cleansedClaremont -1.931e-01  
## neighbourhood\_cleansedCommerce -3.202e-01  
## neighbourhood\_cleansedCompton -2.305e-01  
## neighbourhood\_cleansedCovina -4.361e-01  
## neighbourhood\_cleansedCudahy -1.747e+00  
## `neighbourhood\_cleansedCulver City` -5.226e-02  
## `neighbourhood\_cleansedCypress Park` -4.169e-01  
## `neighbourhood\_cleansedDel Aire` -1.952e-01  
## `neighbourhood\_cleansedDel Rey` -4.695e-04  
## `neighbourhood\_cleansedDesert View Highlands` -9.261e-02  
## `neighbourhood\_cleansedDiamond Bar` -4.215e-01  
## neighbourhood\_cleansedDowney -3.659e-01  
## neighbourhood\_cleansedDowntown 3.299e-02  
## neighbourhood\_cleansedDuarte -4.024e-01  
## `neighbourhood\_cleansedEagle Rock` -1.947e-01  
## `neighbourhood\_cleansedEast Compton` -1.712e-01  
## `neighbourhood\_cleansedEast Hollywood` -3.667e-01  
## `neighbourhood\_cleansedEast Los Angeles` -3.178e-01  
## `neighbourhood\_cleansedEast Pasadena` -1.341e-01  
## `neighbourhood\_cleansedEast San Gabriel` -4.785e-01  
## `neighbourhood\_cleansedEast Whittier` -1.566e-01  
## `neighbourhood\_cleansedEcho Park` -1.631e-01  
## `neighbourhood\_cleansedEl Monte` -3.499e-01  
## `neighbourhood\_cleansedEl Segundo` -1.657e-01  
## `neighbourhood\_cleansedEl Sereno` -3.573e-01  
## `neighbourhood\_cleansedElysian Park` -1.320e-01  
## `neighbourhood\_cleansedElysian Valley` -7.592e-02  
## neighbourhood\_cleansedEncino -1.864e-01  
## `neighbourhood\_cleansedExposition Park` -3.141e-01  
## neighbourhood\_cleansedFairfax -4.755e-02  
## neighbourhood\_cleansedFlorence -1.070e+00  
## `neighbourhood\_cleansedFlorence-Firestone` -4.635e-01  
## neighbourhood\_cleansedGardena -4.346e-01  
## `neighbourhood\_cleansedGlassell Park` -1.522e-01  
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## `neighbourhood\_cleansedMar Vista` 2.209e-01  
## `neighbourhood\_cleansedMarina del Rey` 2.214e-01  
## `neighbourhood\_cleansedMayflower Village` 2.373e-01  
## neighbourhood\_cleansedMaywood 2.694e-01  
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## `neighbourhood\_cleansedMid-Wilshire` 2.205e-01  
## `neighbourhood\_cleansedMission Hills` 2.596e-01  
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## neighbourhood\_cleansedMontebello 2.306e-01  
## `neighbourhood\_cleansedMontecito Heights` 2.255e-01  
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## `neighbourhood\_cleansedMount Washington` 2.234e-01  
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## `neighbourhood\_cleansedNorth Hills` 2.278e-01  
## `neighbourhood\_cleansedNorth Hollywood` 2.207e-01  
## `neighbourhood\_cleansedNorth Whittier` 3.348e-01  
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## neighbourhood\_cleansedNorthridge 2.236e-01  
## `neighbourhood\_cleansedNorthwest Antelope Valley` 3.100e-01  
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## neighbourhood\_cleansedNorwalk 2.288e-01  
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## neighbourhood\_cleansedPalmdale 2.245e-01  
## neighbourhood\_cleansedPalms 2.213e-01  
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## `neighbourhood\_cleansedPanorama City` 2.359e-01  
## neighbourhood\_cleansedParamount 2.597e-01  
## neighbourhood\_cleansedPasadena 2.206e-01  
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## `neighbourhood\_cleansedPico-Union` 2.235e-01  
## `neighbourhood\_cleansedPico Rivera` 2.301e-01  
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## `neighbourhood\_cleansedPlaya Vista` 2.254e-01  
## neighbourhood\_cleansedPomona 2.229e-01  
## `neighbourhood\_cleansedPorter Ranch` 2.416e-01  
## `neighbourhood\_cleansedQuartz Hill` 2.750e-01  
## `neighbourhood\_cleansedRancho Dominguez` 2.942e-01  
## `neighbourhood\_cleansedRancho Palos Verdes` 2.251e-01  
## `neighbourhood\_cleansedRancho Park` 2.263e-01  
## `neighbourhood\_cleansedRedondo Beach` 2.210e-01  
## neighbourhood\_cleansedReseda 2.223e-01  
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## `neighbourhood\_cleansedRolling Hills Estates` 2.941e-01  
## neighbourhood\_cleansedRosemead 2.230e-01  
## `neighbourhood\_cleansedRowland Heights` 2.205e-01  
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## `neighbourhood\_cleansedSanta Clarita` 2.226e-01  
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## `neighbourhood\_cleansedSanta Monica` 2.201e-01  
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## `neighbourhood\_cleansedShadow Hills` 2.329e-01  
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## `neighbourhood\_cleansedSilver Lake` 2.205e-01  
## `neighbourhood\_cleansedSouth Diamond Bar` 4.894e-01  
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## `neighbourhood\_cleansedSouth Park` 2.475e-01  
## `neighbourhood\_cleansedSouth Pasadena` 2.246e-01  
## `neighbourhood\_cleansedSouth San Gabriel` 2.313e-01  
## `neighbourhood\_cleansedSouth San Jose Hills` 2.637e-01  
## `neighbourhood\_cleansedSouth Whittier` 2.427e-01  
## `neighbourhood\_cleansedSoutheast Antelope Valley` 2.502e-01  
## `neighbourhood\_cleansedStevenson Ranch` 2.564e-01  
## `neighbourhood\_cleansedStudio City` 2.208e-01  
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## `neighbourhood\_cleansedToluca Lake` 2.256e-01  
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## neighbourhood\_cleansedTorrance 2.210e-01  
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## `neighbourhood\_cleansedVal Verde` 3.100e-01  
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## neighbourhood\_cleansedVenice 2.200e-01  
## `neighbourhood\_cleansedVermont-Slauson` 2.424e-01  
## `neighbourhood\_cleansedVermont Knolls` 2.428e-01  
## `neighbourhood\_cleansedVermont Square` 2.243e-01  
## `neighbourhood\_cleansedVermont Vista` 2.942e-01  
## neighbourhood\_cleansedVernon 3.348e-01  
## `neighbourhood\_cleansedVeterans Administration` 2.510e-01  
## `neighbourhood\_cleansedView Park-Windsor Hills` 2.243e-01  
## neighbourhood\_cleansedVincent 3.100e-01  
## neighbourhood\_cleansedWalnut 2.245e-01  
## neighbourhood\_cleansedWatts 2.354e-01  
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## `neighbourhood\_cleansedWest Hollywood` 2.204e-01  
## `neighbourhood\_cleansedWest Los Angeles` 2.223e-01  
## `neighbourhood\_cleansedWest Puente Valley` 2.511e-01  
## `neighbourhood\_cleansedWest Whittier-Los Nietos` 2.639e-01  
## neighbourhood\_cleansedWestchester 2.213e-01  
## neighbourhood\_cleansedWestlake 2.205e-01  
## `neighbourhood\_cleansedWestlake Village` 2.597e-01  
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## neighbourhood\_cleansedWestwood 2.206e-01  
## neighbourhood\_cleansedWhittier 2.256e-01  
## neighbourhood\_cleansedWillowbrook 2.428e-01  
## neighbourhood\_cleansedWilmington 2.321e-01  
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## neighbourhood\_cleansedWinnetka 2.252e-01  
## `neighbourhood\_cleansedWoodland Hills` 2.211e-01  
## cleaning\_fee 5.049e-05  
## security\_deposit 1.564e-05  
## review\_scores\_rating 6.918e-04  
## bed\_typeCouch 7.895e-02  
## bed\_typeFuton 6.427e-02  
## `bed\_typePull-out Sofa` 7.125e-02  
## `bed\_typeReal Bed` 5.247e-02  
## review\_scores\_checkin 4.417e-03  
## review\_scores\_cleanliness 3.634e-03  
## review\_scores\_location 4.729e-03  
## review\_scores\_value 4.290e-03  
## wifiTRUE 1.554e-02  
## parkingTRUE 6.856e-03  
## shampooTRUE 5.951e-03  
## t value  
## (Intercept) 14.166  
## bedrooms 43.910  
## property\_typeApartment -3.737  
## property\_typeBarn -1.283  
## `property\_typeBed and breakfast` -4.211  
## property\_typeBoat -1.931  
## `property\_typeBoutique hotel` 4.420  
## property\_typeBungalow -4.718  
## property\_typeBus 0.618  
## property\_typeCabin -0.237  
## `property\_typeCamper/RV` -3.643  
## property\_typeCampsite -4.329  
## `property\_typeCasa particular (Cuba)` -0.639  
## property\_typeCastle -0.769  
## property\_typeCave -0.573  
## property\_typeChalet -3.647  
## property\_typeCondominium -4.112  
## property\_typeCottage -1.725  
## `property\_typeDome house` -5.465  
## property\_typeDorm -7.981  
## `property\_typeEarth house` -0.937  
## `property\_typeFarm stay` -2.326  
## `property\_typeGuest suite` -3.506  
## property\_typeGuesthouse -0.605  
## property\_typeHostel -9.882  
## property\_typeHotel 2.412  
## property\_typeHouse -7.419  
## property\_typeHouseboat -0.859  
## property\_typeHut -3.164  
## property\_typeIgloo -0.760  
## property\_typeIsland -1.333  
## property\_typeLoft -0.531  
## `property\_typeMinsu (Taiwan)` -0.785  
## `property\_typeNature lodge` -2.262  
## property\_typeOther 0.139  
## `property\_typePension (South Korea)` -0.239  
## property\_typeResort 1.537  
## `property\_typeServiced apartment` 2.235  
## property\_typeTent -0.939  
## `property\_typeTiny house` -1.946  
## property\_typeTipi -0.366  
## property\_typeTownhouse -6.468  
## property\_typeTrain 0.054  
## property\_typeTreehouse 1.032  
## `property\_typeVacation home` -1.750  
## property\_typeVilla -4.950  
## property\_typeYurt -1.088  
## beds 20.015  
## `neighbourhood\_cleansedAdams-Normandie` -1.167  
## `neighbourhood\_cleansedAgoura Hills` -0.365  
## `neighbourhood\_cleansedAgua Dulce` -0.055  
## neighbourhood\_cleansedAlhambra -1.688  
## `neighbourhood\_cleansedAlondra Park` -1.110  
## neighbourhood\_cleansedAltadena -0.947  
## `neighbourhood\_cleansedAngeles Crest` -1.492  
## neighbourhood\_cleansedArcadia -1.385  
## neighbourhood\_cleansedArleta -2.168  
## `neighbourhood\_cleansedArlington Heights` -2.962  
## neighbourhood\_cleansedArtesia -1.455  
## neighbourhood\_cleansedAthens -0.690  
## `neighbourhood\_cleansedAtwater Village` -0.575  
## neighbourhood\_cleansedAvalon -0.383  
## `neighbourhood\_cleansedAvocado Heights` -1.978  
## neighbourhood\_cleansedAzusa -1.427  
## `neighbourhood\_cleansedBaldwin Hills/Crenshaw` -1.302  
## `neighbourhood\_cleansedBaldwin Park` -1.443  
## `neighbourhood\_cleansedBel-Air` 0.049  
## neighbourhood\_cleansedBell -1.104  
## `neighbourhood\_cleansedBell Gardens` -1.490  
## neighbourhood\_cleansedBellflower -1.843  
## `neighbourhood\_cleansedBeverly Crest` -0.080  
## `neighbourhood\_cleansedBeverly Grove` 0.180  
## `neighbourhood\_cleansedBeverly Hills` 0.024  
## neighbourhood\_cleansedBeverlywood -1.137  
## `neighbourhood\_cleansedBoyle Heights` -1.648  
## neighbourhood\_cleansedBradbury -0.172  
## neighbourhood\_cleansedBrentwood -0.159  
## `neighbourhood\_cleansedBroadway-Manchester` -1.463  
## neighbourhood\_cleansedBurbank -0.816  
## neighbourhood\_cleansedCalabasas -0.876  
## `neighbourhood\_cleansedCanoga Park` -1.585  
## neighbourhood\_cleansedCarson -1.820  
## neighbourhood\_cleansedCarthay -0.050  
## neighbourhood\_cleansedCastaic -1.789  
## `neighbourhood\_cleansedCastaic Canyons` -1.253  
## `neighbourhood\_cleansedCentral-Alameda` -2.478  
## `neighbourhood\_cleansedCentury City` -0.027  
## neighbourhood\_cleansedCerritos -2.068  
## `neighbourhood\_cleansedCharter Oak` -2.856  
## neighbourhood\_cleansedChatsworth -1.023  
## `neighbourhood\_cleansedChatsworth Reservoir` 0.812  
## `neighbourhood\_cleansedChesterfield Square` -2.937  
## `neighbourhood\_cleansedCheviot Hills` -0.635  
## neighbourhood\_cleansedChinatown -1.154  
## neighbourhood\_cleansedCitrus -1.532  
## neighbourhood\_cleansedClaremont -0.850  
## neighbourhood\_cleansedCommerce -0.957  
## neighbourhood\_cleansedCompton -0.962  
## neighbourhood\_cleansedCovina -1.912  
## neighbourhood\_cleansedCudahy -3.565  
## `neighbourhood\_cleansedCulver City` -0.236  
## `neighbourhood\_cleansedCypress Park` -1.661  
## `neighbourhood\_cleansedDel Aire` -0.859  
## `neighbourhood\_cleansedDel Rey` -0.002  
## `neighbourhood\_cleansedDesert View Highlands` -0.244  
## `neighbourhood\_cleansedDiamond Bar` -1.896  
## neighbourhood\_cleansedDowney -1.628  
## neighbourhood\_cleansedDowntown 0.150  
## neighbourhood\_cleansedDuarte -1.706  
## `neighbourhood\_cleansedEagle Rock` -0.875  
## `neighbourhood\_cleansedEast Compton` -0.451  
## `neighbourhood\_cleansedEast Hollywood` -1.663  
## `neighbourhood\_cleansedEast Los Angeles` -1.424  
## `neighbourhood\_cleansedEast Pasadena` -0.592  
## `neighbourhood\_cleansedEast San Gabriel` -2.131  
## `neighbourhood\_cleansedEast Whittier` -0.533  
## `neighbourhood\_cleansedEcho Park` -0.739  
## `neighbourhood\_cleansedEl Monte` -1.567  
## `neighbourhood\_cleansedEl Segundo` -0.743  
## `neighbourhood\_cleansedEl Sereno` -1.583  
## `neighbourhood\_cleansedElysian Park` -0.546  
## `neighbourhood\_cleansedElysian Valley` -0.324  
## neighbourhood\_cleansedEncino -0.837  
## `neighbourhood\_cleansedExposition Park` -1.407  
## neighbourhood\_cleansedFairfax -0.215  
## neighbourhood\_cleansedFlorence -4.558  
## `neighbourhood\_cleansedFlorence-Firestone` -1.934  
## neighbourhood\_cleansedGardena -1.945  
## `neighbourhood\_cleansedGlassell Park` -0.677  
## neighbourhood\_cleansedGlendale -0.422  
## neighbourhood\_cleansedGlendora -2.031  
## `neighbourhood\_cleansedGramercy Park` 0.557  
## `neighbourhood\_cleansedGranada Hills` -0.890  
## `neighbourhood\_cleansedGreen Meadows` -0.698  
## `neighbourhood\_cleansedGreen Valley` -0.925  
## `neighbourhood\_cleansedGriffith Park` -3.750  
## `neighbourhood\_cleansedHacienda Heights` -2.357  
## `neighbourhood\_cleansedHancock Park` -0.252  
## `neighbourhood\_cleansedHarbor City` -0.996  
## `neighbourhood\_cleansedHarbor Gateway` -2.408  
## `neighbourhood\_cleansedHarvard Heights` -1.650  
## `neighbourhood\_cleansedHarvard Park` -4.658  
## `neighbourhood\_cleansedHasley Canyon` -0.599  
## `neighbourhood\_cleansedHawaiian Gardens` -0.869  
## neighbourhood\_cleansedHawthorne -2.003  
## `neighbourhood\_cleansedHermosa Beach` -0.096  
## `neighbourhood\_cleansedHighland Park` -1.100  
## `neighbourhood\_cleansedHistoric South-Central` -3.933  
## neighbourhood\_cleansedHollywood -0.394  
## `neighbourhood\_cleansedHollywood Hills` -0.223  
## `neighbourhood\_cleansedHollywood Hills West` -0.069  
## `neighbourhood\_cleansedHuntington Park` -2.031  
## `neighbourhood\_cleansedHyde Park` -2.157  
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## neighbourhood\_cleansedInglewood -1.609  
## neighbourhood\_cleansedIrwindale -2.329  
## `neighbourhood\_cleansedJefferson Park` -1.083  
## neighbourhood\_cleansedKoreatown -1.372  
## `neighbourhood\_cleansedLa Canada Flintridge` -0.292  
## `neighbourhood\_cleansedLa Crescenta-Montrose` -0.228  
## `neighbourhood\_cleansedLa Habra Heights` -0.314  
## `neighbourhood\_cleansedLa Mirada` -1.739  
## `neighbourhood\_cleansedLa Puente` -1.925  
## `neighbourhood\_cleansedLa Verne` -1.958  
## `neighbourhood\_cleansedLadera Heights` -0.339  
## `neighbourhood\_cleansedLake Balboa` -1.404  
## `neighbourhood\_cleansedLake Hughes` 0.972  
## `neighbourhood\_cleansedLake Los Angeles` -1.510  
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## neighbourhood\_cleansedLancaster -3.087  
## neighbourhood\_cleansedLarchmont -0.310  
## neighbourhood\_cleansedLawndale -2.068  
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## neighbourhood\_cleansedLomita -1.553  
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## `neighbourhood\_cleansedLopez/Kagel Canyons` -1.177  
## `neighbourhood\_cleansedLos Feliz` -0.346  
## neighbourhood\_cleansedLynwood -2.003  
## neighbourhood\_cleansedMalibu -0.105  
## `neighbourhood\_cleansedManchester Square` -0.773  
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## `neighbourhood\_cleansedNorth El Monte` -1.168  
## `neighbourhood\_cleansedNorth Hills` -1.807  
## `neighbourhood\_cleansedNorth Hollywood` -1.134  
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## `neighbourhood\_cleansedPico Rivera` -1.947  
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## `neighbourhood\_cleansedSan Pedro` -1.059  
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## `neighbourhood\_cleansedSouth Park` -2.868  
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## neighbourhood\_cleansedSylmar -1.875  
## neighbourhood\_cleansedTarzana -0.992  
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## neighbourhood\_cleansedTorrance -1.342  
## neighbourhood\_cleansedTujunga -1.751  
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## `neighbourhood\_cleansedUnincorporated Santa Monica Mountains` -0.192  
## `neighbourhood\_cleansedUnincorporated Santa Susana Mountains` -0.418  
## `neighbourhood\_cleansedUniversal City` -0.244  
## `neighbourhood\_cleansedUniversity Park` -2.630  
## `neighbourhood\_cleansedVal Verde` -0.870  
## neighbourhood\_cleansedValinda -2.409  
## `neighbourhood\_cleansedValley Glen` -0.914  
## `neighbourhood\_cleansedValley Village` -0.880  
## `neighbourhood\_cleansedVan Nuys` -1.421  
## neighbourhood\_cleansedVenice 0.154  
## `neighbourhood\_cleansedVermont-Slauson` -1.916  
## `neighbourhood\_cleansedVermont Knolls` -2.753  
## `neighbourhood\_cleansedVermont Square` -2.844  
## `neighbourhood\_cleansedVermont Vista` -1.393  
## neighbourhood\_cleansedVernon 0.180  
## `neighbourhood\_cleansedVeterans Administration` -0.620  
## `neighbourhood\_cleansedView Park-Windsor Hills` -0.637  
## neighbourhood\_cleansedVincent -0.211  
## neighbourhood\_cleansedWalnut -1.732  
## neighbourhood\_cleansedWatts -5.578  
## `neighbourhood\_cleansedWest Adams` -1.256  
## `neighbourhood\_cleansedWest Carson` -1.353  
## `neighbourhood\_cleansedWest Compton` -1.839  
## `neighbourhood\_cleansedWest Covina` -2.211  
## `neighbourhood\_cleansedWest Hills` -1.183  
## `neighbourhood\_cleansedWest Hollywood` 0.058  
## `neighbourhood\_cleansedWest Los Angeles` -1.434  
## `neighbourhood\_cleansedWest Puente Valley` -1.891  
## `neighbourhood\_cleansedWest Whittier-Los Nietos` -1.234  
## neighbourhood\_cleansedWestchester -1.073  
## neighbourhood\_cleansedWestlake -0.690  
## `neighbourhood\_cleansedWestlake Village` 0.662  
## neighbourhood\_cleansedWestmont -0.582  
## neighbourhood\_cleansedWestwood -0.441  
## neighbourhood\_cleansedWhittier -1.554  
## neighbourhood\_cleansedWillowbrook -1.487  
## neighbourhood\_cleansedWilmington -1.740  
## `neighbourhood\_cleansedWindsor Square` -0.305  
## neighbourhood\_cleansedWinnetka -1.145  
## `neighbourhood\_cleansedWoodland Hills` -1.006  
## cleaning\_fee 59.762  
## security\_deposit 14.208  
## review\_scores\_rating 4.789  
## bed\_typeCouch -0.989  
## bed\_typeFuton 1.577  
## `bed\_typePull-out Sofa` 2.200  
## `bed\_typeReal Bed` 4.750  
## review\_scores\_checkin -1.565  
## review\_scores\_cleanliness 10.087  
## review\_scores\_location 8.671  
## review\_scores\_value -9.553  
## wifiTRUE -5.384  
## parkingTRUE 16.838  
## shampooTRUE 19.941  
## Pr(>|t|)   
## (Intercept) < 2e-16 \*\*\*  
## bedrooms < 2e-16 \*\*\*  
## property\_typeApartment 0.000186 \*\*\*  
## property\_typeBarn 0.199537   
## `property\_typeBed and breakfast` 2.55e-05 \*\*\*  
## property\_typeBoat 0.053517 .   
## `property\_typeBoutique hotel` 9.90e-06 \*\*\*  
## property\_typeBungalow 2.40e-06 \*\*\*  
## property\_typeBus 0.536369   
## property\_typeCabin 0.812839   
## `property\_typeCamper/RV` 0.000270 \*\*\*  
## property\_typeCampsite 1.50e-05 \*\*\*  
## `property\_typeCasa particular (Cuba)` 0.522660   
## property\_typeCastle 0.442124   
## property\_typeCave 0.566969   
## property\_typeChalet 0.000266 \*\*\*  
## property\_typeCondominium 3.93e-05 \*\*\*  
## property\_typeCottage 0.084534 .   
## `property\_typeDome house` 4.65e-08 \*\*\*  
## property\_typeDorm 1.49e-15 \*\*\*  
## `property\_typeEarth house` 0.348631   
## `property\_typeFarm stay` 0.020013 \*   
## `property\_typeGuest suite` 0.000455 \*\*\*  
## property\_typeGuesthouse 0.545083   
## property\_typeHostel < 2e-16 \*\*\*  
## property\_typeHotel 0.015878 \*   
## property\_typeHouse 1.21e-13 \*\*\*  
## property\_typeHouseboat 0.390487   
## property\_typeHut 0.001558 \*\*   
## property\_typeIgloo 0.447024   
## property\_typeIsland 0.182426   
## property\_typeLoft 0.595575   
## `property\_typeMinsu (Taiwan)` 0.432234   
## `property\_typeNature lodge` 0.023720 \*   
## property\_typeOther 0.889560   
## `property\_typePension (South Korea)` 0.811134   
## property\_typeResort 0.124333   
## `property\_typeServiced apartment` 0.025412 \*   
## property\_typeTent 0.347683   
## `property\_typeTiny house` 0.051677 .   
## property\_typeTipi 0.714382   
## property\_typeTownhouse 1.01e-10 \*\*\*  
## property\_typeTrain 0.957211   
## property\_typeTreehouse 0.301852   
## `property\_typeVacation home` 0.080067 .   
## property\_typeVilla 7.44e-07 \*\*\*  
## property\_typeYurt 0.276397   
## beds < 2e-16 \*\*\*  
## `neighbourhood\_cleansedAdams-Normandie` 0.243329   
## `neighbourhood\_cleansedAgoura Hills` 0.715018   
## `neighbourhood\_cleansedAgua Dulce` 0.956440   
## neighbourhood\_cleansedAlhambra 0.091336 .   
## `neighbourhood\_cleansedAlondra Park` 0.267023   
## neighbourhood\_cleansedAltadena 0.343884   
## `neighbourhood\_cleansedAngeles Crest` 0.135612   
## neighbourhood\_cleansedArcadia 0.166195   
## neighbourhood\_cleansedArleta 0.030153 \*   
## `neighbourhood\_cleansedArlington Heights` 0.003059 \*\*   
## neighbourhood\_cleansedArtesia 0.145636   
## neighbourhood\_cleansedAthens 0.489906   
## `neighbourhood\_cleansedAtwater Village` 0.565533   
## neighbourhood\_cleansedAvalon 0.701454   
## `neighbourhood\_cleansedAvocado Heights` 0.047940 \*   
## neighbourhood\_cleansedAzusa 0.153705   
## `neighbourhood\_cleansedBaldwin Hills/Crenshaw` 0.193042   
## `neighbourhood\_cleansedBaldwin Park` 0.149119   
## `neighbourhood\_cleansedBel-Air` 0.960651   
## neighbourhood\_cleansedBell 0.269479   
## `neighbourhood\_cleansedBell Gardens` 0.136241   
## neighbourhood\_cleansedBellflower 0.065389 .   
## `neighbourhood\_cleansedBeverly Crest` 0.936194   
## `neighbourhood\_cleansedBeverly Grove` 0.857137   
## `neighbourhood\_cleansedBeverly Hills` 0.980662   
## neighbourhood\_cleansedBeverlywood 0.255599   
## `neighbourhood\_cleansedBoyle Heights` 0.099338 .   
## neighbourhood\_cleansedBradbury 0.863046   
## neighbourhood\_cleansedBrentwood 0.873296   
## `neighbourhood\_cleansedBroadway-Manchester` 0.143343   
## neighbourhood\_cleansedBurbank 0.414606   
## neighbourhood\_cleansedCalabasas 0.381205   
## `neighbourhood\_cleansedCanoga Park` 0.112946   
## neighbourhood\_cleansedCarson 0.068730 .   
## neighbourhood\_cleansedCarthay 0.960488   
## neighbourhood\_cleansedCastaic 0.073589 .   
## `neighbourhood\_cleansedCastaic Canyons` 0.210355   
## `neighbourhood\_cleansedCentral-Alameda` 0.013221 \*   
## `neighbourhood\_cleansedCentury City` 0.978221   
## neighbourhood\_cleansedCerritos 0.038668 \*   
## `neighbourhood\_cleansedCharter Oak` 0.004294 \*\*   
## neighbourhood\_cleansedChatsworth 0.306128   
## `neighbourhood\_cleansedChatsworth Reservoir` 0.416788   
## `neighbourhood\_cleansedChesterfield Square` 0.003311 \*\*   
## `neighbourhood\_cleansedCheviot Hills` 0.525654   
## neighbourhood\_cleansedChinatown 0.248492   
## neighbourhood\_cleansedCitrus 0.125452   
## neighbourhood\_cleansedClaremont 0.395458   
## neighbourhood\_cleansedCommerce 0.338583   
## neighbourhood\_cleansedCompton 0.336152   
## neighbourhood\_cleansedCovina 0.055908 .   
## neighbourhood\_cleansedCudahy 0.000365 \*\*\*  
## `neighbourhood\_cleansedCulver City` 0.813182   
## `neighbourhood\_cleansedCypress Park` 0.096745 .   
## `neighbourhood\_cleansedDel Aire` 0.390482   
## `neighbourhood\_cleansedDel Rey` 0.998308   
## `neighbourhood\_cleansedDesert View Highlands` 0.807120   
## `neighbourhood\_cleansedDiamond Bar` 0.057918 .   
## neighbourhood\_cleansedDowney 0.103608   
## neighbourhood\_cleansedDowntown 0.880878   
## neighbourhood\_cleansedDuarte 0.088016 .   
## `neighbourhood\_cleansedEagle Rock` 0.381728   
## `neighbourhood\_cleansedEast Compton` 0.652301   
## `neighbourhood\_cleansedEast Hollywood` 0.096373 .   
## `neighbourhood\_cleansedEast Los Angeles` 0.154401   
## `neighbourhood\_cleansedEast Pasadena` 0.553798   
## `neighbourhood\_cleansedEast San Gabriel` 0.033126 \*   
## `neighbourhood\_cleansedEast Whittier` 0.594354   
## `neighbourhood\_cleansedEcho Park` 0.459792   
## `neighbourhood\_cleansedEl Monte` 0.117230   
## `neighbourhood\_cleansedEl Segundo` 0.457233   
## `neighbourhood\_cleansedEl Sereno` 0.113532   
## `neighbourhood\_cleansedElysian Park` 0.584797   
## `neighbourhood\_cleansedElysian Valley` 0.745896   
## neighbourhood\_cleansedEncino 0.402473   
## `neighbourhood\_cleansedExposition Park` 0.159378   
## neighbourhood\_cleansedFairfax 0.829769   
## neighbourhood\_cleansedFlorence 5.18e-06 \*\*\*  
## `neighbourhood\_cleansedFlorence-Firestone` 0.053101 .   
## neighbourhood\_cleansedGardena 0.051781 .   
## `neighbourhood\_cleansedGlassell Park` 0.498375   
## neighbourhood\_cleansedGlendale 0.673309   
## neighbourhood\_cleansedGlendora 0.042300 \*   
## `neighbourhood\_cleansedGramercy Park` 0.577397   
## `neighbourhood\_cleansedGranada Hills` 0.373479   
## `neighbourhood\_cleansedGreen Meadows` 0.485382   
## `neighbourhood\_cleansedGreen Valley` 0.355108   
## `neighbourhood\_cleansedGriffith Park` 0.000177 \*\*\*  
## `neighbourhood\_cleansedHacienda Heights` 0.018414 \*   
## `neighbourhood\_cleansedHancock Park` 0.800978   
## `neighbourhood\_cleansedHarbor City` 0.319186   
## `neighbourhood\_cleansedHarbor Gateway` 0.016038 \*   
## `neighbourhood\_cleansedHarvard Heights` 0.098892 .   
## `neighbourhood\_cleansedHarvard Park` 3.20e-06 \*\*\*  
## `neighbourhood\_cleansedHasley Canyon` 0.549025   
## `neighbourhood\_cleansedHawaiian Gardens` 0.384765   
## neighbourhood\_cleansedHawthorne 0.045213 \*   
## `neighbourhood\_cleansedHermosa Beach` 0.923671   
## `neighbourhood\_cleansedHighland Park` 0.271374   
## `neighbourhood\_cleansedHistoric South-Central` 8.41e-05 \*\*\*  
## neighbourhood\_cleansedHollywood 0.693716   
## `neighbourhood\_cleansedHollywood Hills` 0.823809   
## `neighbourhood\_cleansedHollywood Hills West` 0.945158   
## `neighbourhood\_cleansedHuntington Park` 0.042237 \*   
## `neighbourhood\_cleansedHyde Park` 0.030982 \*   
## neighbourhood\_cleansedIndustry 0.378935   
## neighbourhood\_cleansedInglewood 0.107690   
## neighbourhood\_cleansedIrwindale 0.019848 \*   
## `neighbourhood\_cleansedJefferson Park` 0.278895   
## neighbourhood\_cleansedKoreatown 0.170053   
## `neighbourhood\_cleansedLa Canada Flintridge` 0.770400   
## `neighbourhood\_cleansedLa Crescenta-Montrose` 0.819420   
## `neighbourhood\_cleansedLa Habra Heights` 0.753220   
## `neighbourhood\_cleansedLa Mirada` 0.082051 .   
## `neighbourhood\_cleansedLa Puente` 0.054197 .   
## `neighbourhood\_cleansedLa Verne` 0.050251 .   
## `neighbourhood\_cleansedLadera Heights` 0.734825   
## `neighbourhood\_cleansedLake Balboa` 0.160182   
## `neighbourhood\_cleansedLake Hughes` 0.330986   
## `neighbourhood\_cleansedLake Los Angeles` 0.131169   
## `neighbourhood\_cleansedLake View Terrace` 0.033260 \*   
## neighbourhood\_cleansedLakewood 0.199615   
## neighbourhood\_cleansedLancaster 0.002024 \*\*   
## neighbourhood\_cleansedLarchmont 0.756700   
## neighbourhood\_cleansedLawndale 0.038628 \*   
## `neighbourhood\_cleansedLeimert Park` 0.114292   
## neighbourhood\_cleansedLennox 0.041374 \*   
## `neighbourhood\_cleansedLeona Valley` 0.362127   
## `neighbourhood\_cleansedLincoln Heights` 0.290986   
## neighbourhood\_cleansedLomita 0.120416   
## `neighbourhood\_cleansedLong Beach` 0.414683   
## `neighbourhood\_cleansedLopez/Kagel Canyons` 0.239016   
## `neighbourhood\_cleansedLos Feliz` 0.729720   
## neighbourhood\_cleansedLynwood 0.045213 \*   
## neighbourhood\_cleansedMalibu 0.916624   
## `neighbourhood\_cleansedManchester Square` 0.439245   
## `neighbourhood\_cleansedManhattan Beach` 0.932257   
## `neighbourhood\_cleansedMar Vista` 0.550402   
## `neighbourhood\_cleansedMarina del Rey` 0.584976   
## `neighbourhood\_cleansedMayflower Village` 0.029146 \*   
## neighbourhood\_cleansedMaywood 0.067386 .   
## `neighbourhood\_cleansedMid-City` 0.315033   
## `neighbourhood\_cleansedMid-Wilshire` 0.558128   
## `neighbourhood\_cleansedMission Hills` 0.363377   
## neighbourhood\_cleansedMonrovia 0.275471   
## neighbourhood\_cleansedMontebello 0.047118 \*   
## `neighbourhood\_cleansedMontecito Heights` 0.411531   
## `neighbourhood\_cleansedMonterey Park` 0.092091 .   
## `neighbourhood\_cleansedMount Washington` 0.528729   
## `neighbourhood\_cleansedNorth El Monte` 0.243005   
## `neighbourhood\_cleansedNorth Hills` 0.070754 .   
## `neighbourhood\_cleansedNorth Hollywood` 0.256888   
## `neighbourhood\_cleansedNorth Whittier` 0.694978   
## `neighbourhood\_cleansedNortheast Antelope Valley` 0.003071 \*\*   
## neighbourhood\_cleansedNorthridge 0.241760   
## `neighbourhood\_cleansedNorthwest Antelope Valley` 0.006976 \*\*   
## `neighbourhood\_cleansedNorthwest Palmdale` 0.017188 \*   
## neighbourhood\_cleansedNorwalk 0.044654 \*   
## `neighbourhood\_cleansedPacific Palisades` 0.932991   
## neighbourhood\_cleansedPacoima 0.319612   
## neighbourhood\_cleansedPalmdale 0.007151 \*\*   
## neighbourhood\_cleansedPalms 0.368257   
## `neighbourhood\_cleansedPalos Verdes Estates` 0.939271   
## `neighbourhood\_cleansedPanorama City` 0.057994 .   
## neighbourhood\_cleansedParamount 0.453050   
## neighbourhood\_cleansedPasadena 0.561743   
## `neighbourhood\_cleansedPico-Robertson` 0.479510   
## `neighbourhood\_cleansedPico-Union` 0.286209   
## `neighbourhood\_cleansedPico Rivera` 0.051510 .   
## `neighbourhood\_cleansedPlaya del Rey` 0.709231   
## `neighbourhood\_cleansedPlaya Vista` 0.890902   
## neighbourhood\_cleansedPomona 0.050828 .   
## `neighbourhood\_cleansedPorter Ranch` 0.385589   
## `neighbourhood\_cleansedQuartz Hill` 0.065796 .   
## `neighbourhood\_cleansedRancho Dominguez` 0.009455 \*\*   
## `neighbourhood\_cleansedRancho Palos Verdes` 0.306205   
## `neighbourhood\_cleansedRancho Park` 0.076381 .   
## `neighbourhood\_cleansedRedondo Beach` 0.779277   
## neighbourhood\_cleansedReseda 0.134317   
## `neighbourhood\_cleansedRidge Route` 0.510650   
## `neighbourhood\_cleansedRolling Hills` 0.314555   
## `neighbourhood\_cleansedRolling Hills Estates` 0.451750   
## neighbourhood\_cleansedRosemead 0.022944 \*   
## `neighbourhood\_cleansedRowland Heights` 0.021640 \*   
## `neighbourhood\_cleansedSan Dimas` 0.074830 .   
## `neighbourhood\_cleansedSan Fernando` 0.027690 \*   
## `neighbourhood\_cleansedSan Gabriel` 0.076404 .   
## `neighbourhood\_cleansedSan Marino` 0.515911   
## `neighbourhood\_cleansedSan Pasqual` 0.340295   
## `neighbourhood\_cleansedSan Pedro` 0.289438   
## `neighbourhood\_cleansedSanta Clarita` 0.243836   
## `neighbourhood\_cleansedSanta Fe Springs` 0.046363 \*   
## `neighbourhood\_cleansedSanta Monica` 0.940915   
## neighbourhood\_cleansedSawtelle 0.489039   
## `neighbourhood\_cleansedSepulveda Basin` 0.272015   
## `neighbourhood\_cleansedShadow Hills` 0.343954   
## `neighbourhood\_cleansedSherman Oaks` 0.422472   
## `neighbourhood\_cleansedSierra Madre` 0.716212   
## `neighbourhood\_cleansedSignal Hill` 0.187768   
## `neighbourhood\_cleansedSilver Lake` 0.809662   
## `neighbourhood\_cleansedSouth Diamond Bar` 0.508715   
## `neighbourhood\_cleansedSouth El Monte` 0.319259   
## `neighbourhood\_cleansedSouth Gate` 0.175846   
## `neighbourhood\_cleansedSouth Park` 0.004131 \*\*   
## `neighbourhood\_cleansedSouth Pasadena` 0.556746   
## `neighbourhood\_cleansedSouth San Gabriel` 0.008986 \*\*   
## `neighbourhood\_cleansedSouth San Jose Hills` 0.113216   
## `neighbourhood\_cleansedSouth Whittier` 0.186010   
## `neighbourhood\_cleansedSoutheast Antelope Valley` 0.543861   
## `neighbourhood\_cleansedStevenson Ranch` 0.047029 \*   
## `neighbourhood\_cleansedStudio City` 0.738250   
## `neighbourhood\_cleansedSun Valley` 0.348740   
## `neighbourhood\_cleansedSun Village` 0.163546   
## neighbourhood\_cleansedSunland 0.272887   
## neighbourhood\_cleansedSylmar 0.060745 .   
## neighbourhood\_cleansedTarzana 0.321340   
## `neighbourhood\_cleansedTemple City` 0.080808 .   
## `neighbourhood\_cleansedToluca Lake` 0.647121   
## neighbourhood\_cleansedTopanga 0.824107   
## neighbourhood\_cleansedTorrance 0.179590   
## neighbourhood\_cleansedTujunga 0.079910 .   
## `neighbourhood\_cleansedTujunga Canyons` 0.678041   
## `neighbourhood\_cleansedUnincorporated Catalina Island` 0.515034   
## `neighbourhood\_cleansedUnincorporated Santa Monica Mountains` 0.847545   
## `neighbourhood\_cleansedUnincorporated Santa Susana Mountains` 0.676135   
## `neighbourhood\_cleansedUniversal City` 0.807092   
## `neighbourhood\_cleansedUniversity Park` 0.008554 \*\*   
## `neighbourhood\_cleansedVal Verde` 0.384113   
## neighbourhood\_cleansedValinda 0.015990 \*   
## `neighbourhood\_cleansedValley Glen` 0.360478   
## `neighbourhood\_cleansedValley Village` 0.379064   
## `neighbourhood\_cleansedVan Nuys` 0.155187   
## neighbourhood\_cleansedVenice 0.878000   
## `neighbourhood\_cleansedVermont-Slauson` 0.055385 .   
## `neighbourhood\_cleansedVermont Knolls` 0.005900 \*\*   
## `neighbourhood\_cleansedVermont Square` 0.004455 \*\*   
## `neighbourhood\_cleansedVermont Vista` 0.163668   
## neighbourhood\_cleansedVernon 0.857345   
## `neighbourhood\_cleansedVeterans Administration` 0.534996   
## `neighbourhood\_cleansedView Park-Windsor Hills` 0.523934   
## neighbourhood\_cleansedVincent 0.833171   
## neighbourhood\_cleansedWalnut 0.083258 .   
## neighbourhood\_cleansedWatts 2.44e-08 \*\*\*  
## `neighbourhood\_cleansedWest Adams` 0.209077   
## `neighbourhood\_cleansedWest Carson` 0.176098   
## `neighbourhood\_cleansedWest Compton` 0.065955 .   
## `neighbourhood\_cleansedWest Covina` 0.027064 \*   
## `neighbourhood\_cleansedWest Hills` 0.236856   
## `neighbourhood\_cleansedWest Hollywood` 0.953805   
## `neighbourhood\_cleansedWest Los Angeles` 0.151557   
## `neighbourhood\_cleansedWest Puente Valley` 0.058571 .   
## `neighbourhood\_cleansedWest Whittier-Los Nietos` 0.217202   
## neighbourhood\_cleansedWestchester 0.283469   
## neighbourhood\_cleansedWestlake 0.490375   
## `neighbourhood\_cleansedWestlake Village` 0.508088   
## neighbourhood\_cleansedWestmont 0.560279   
## neighbourhood\_cleansedWestwood 0.658856   
## neighbourhood\_cleansedWhittier 0.120150   
## neighbourhood\_cleansedWillowbrook 0.137076   
## neighbourhood\_cleansedWilmington 0.081798 .   
## `neighbourhood\_cleansedWindsor Square` 0.760465   
## neighbourhood\_cleansedWinnetka 0.252319   
## `neighbourhood\_cleansedWoodland Hills` 0.314645   
## cleaning\_fee < 2e-16 \*\*\*  
## security\_deposit < 2e-16 \*\*\*  
## review\_scores\_rating 1.69e-06 \*\*\*  
## bed\_typeCouch 0.322778   
## bed\_typeFuton 0.114770   
## `bed\_typePull-out Sofa` 0.027786 \*   
## `bed\_typeReal Bed` 2.05e-06 \*\*\*  
## review\_scores\_checkin 0.117494   
## review\_scores\_cleanliness < 2e-16 \*\*\*  
## review\_scores\_location < 2e-16 \*\*\*  
## review\_scores\_value < 2e-16 \*\*\*  
## wifiTRUE 7.34e-08 \*\*\*  
## parkingTRUE < 2e-16 \*\*\*  
## shampooTRUE < 2e-16 \*\*\*  
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## Residual standard error: 0.4372 on 37385 degrees of freedom  
## Multiple R-squared: 0.4335, Adjusted R-squared: 0.4286   
## F-statistic: 88.29 on 324 and 37385 DF, p-value: < 2.2e-16

Principal Component Regression Model using 10 Fold Cross Validation

set.seed(777)  
#Principal Component Regression is useful when we have lots of independent variables, therefore one of the reasons I used it here.  
  
train\_cv<-trainControl(method="cv",number=10,savePredictions = TRUE) #10 fold cross validation  
  
model\_pcr\_cv<-train(log(price)~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+  
 review\_scores\_rating+bed\_type+review\_scores\_checkin+review\_scores\_cleanliness  
 +review\_scores\_location+review\_scores\_value+wifi+parking+shampoo,data=data,trControl=train\_cv,method="pcr")  
  
model\_pcr\_cv # Again, to see the metrics of it when doing 10 Fold Cross Validation.

## Principal Component Analysis   
##   
## 37710 samples  
## 15 predictor  
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold)   
## Summary of sample sizes: 33940, 33940, 33940, 33938, 33937, 33938, ...   
## Resampling results across tuning parameters:  
##   
## ncomp RMSE Rsquared MAE   
## 1 0.5628394 0.05312467 0.4394414  
## 2 0.5093255 0.22477479 0.4000442  
## 3 0.5090070 0.22574790 0.3998980  
##   
## RMSE was used to select the optimal model using the smallest value.  
## The final value used for the model was ncomp = 3.

Principal Component Regression Model Variation with 10 Fold Cross Validation

set.seed(777)  
train\_cv<-trainControl(method="cv",number=10,savePredictions = TRUE) #10 fold cross validation  
model2\_pcr\_cv<-train(log(price)~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+bed\_type+wifi+parking+shampoo,data=data,trControl=train\_cv,method="pcr")  
  
model2\_pcr\_cv

## Principal Component Analysis   
##   
## 37710 samples  
## 10 predictor  
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold)   
## Summary of sample sizes: 33940, 33940, 33940, 33938, 33937, 33938, ...   
## Resampling results across tuning parameters:  
##   
## ncomp RMSE Rsquared MAE   
## 1 0.5628396 0.05312402 0.4394415  
## 2 0.5093268 0.22477060 0.4000452  
## 3 0.4953051 0.26682927 0.3898104  
##   
## RMSE was used to select the optimal model using the smallest value.  
## The final value used for the model was ncomp = 3.

Random Forest Regression with 10 Fold Cross Validation

set.seed(777)  
train\_cv<-trainControl(method="cv",number=10,savePredictions = TRUE) #10 fold cross validation  
model\_rf<-train(log(price)~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+  
 review\_scores\_rating+bed\_type+review\_scores\_checkin+review\_scores\_cleanliness  
 +review\_scores\_location+review\_scores\_value+wifi+parking+shampoo,data=data,trControl=train\_cv,method="ranger",num.trees=100,verbose=FALSE)  
  
  
  
model\_rf

## Random Forest   
##   
## 37710 samples  
## 15 predictor  
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold)   
## Summary of sample sizes: 33940, 33940, 33940, 33938, 33937, 33938, ...   
## Resampling results across tuning parameters:  
##   
## mtry splitrule RMSE Rsquared MAE   
## 2 variance 0.5066575 0.4505635 0.3931607  
## 2 extratrees 0.5244408 0.4088279 0.4071167  
## 163 variance 0.3864344 0.5537660 0.2904083  
## 163 extratrees 0.3823836 0.5629370 0.2862879  
## 324 variance 0.3894870 0.5474402 0.2917051  
## 324 extratrees 0.3842996 0.5588573 0.2872151  
##   
## Tuning parameter 'min.node.size' was held constant at a value of 5  
## RMSE was used to select the optimal model using the smallest value.  
## The final values used for the model were mtry = 163, splitrule  
## = extratrees and min.node.size = 5.

#Here, as expected the random forest regression outperforms the other models in terms of RMSE,R2 and MAE. However, the drawback is that it takes a significantly longer time to train the model. I lowered the number of trees in the training, in order to achieve a faster model. At times if you increase the number of trees you will improve model, but this may not be the case and increasing trees will make the model train even longer without providing any improvement in the model.  
  
  
#Due to computation limitation of my computer, I lowered the number of trees to achieve a timely model with 10 Fold Cross Validation.With better computation power we can improve the number of trees. However, in my case I just wanted to showcase that, indeed a random forest is better than the other models and that the sacrifice is the time it takes to train the model.

Random Forest Regression with 10 Fold Cross Validation Variation

set.seed(777)  
model2\_rf<-train(log(price)~bedrooms+property\_type+beds+neighbourhood\_cleansed+cleaning\_fee+security\_deposit+bed\_type  
 +wifi+parking+shampoo,data=data,trControl=train\_cv,method="ranger",num.trees=100,verbose=FALSE)  
  
  
model2\_rf

## Random Forest   
##   
## 37710 samples  
## 10 predictor  
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold)   
## Summary of sample sizes: 33940, 33940, 33940, 33938, 33937, 33938, ...   
## Resampling results across tuning parameters:  
##   
## mtry splitrule RMSE Rsquared MAE   
## 2 variance 0.5038249 0.4418314 0.3913070  
## 2 extratrees 0.5244658 0.4082628 0.4070571  
## 160 variance 0.3868567 0.5538098 0.2863613  
## 160 extratrees 0.3855488 0.5562336 0.2865346  
## 319 variance 0.3913108 0.5453503 0.2886924  
## 319 extratrees 0.3889006 0.5498211 0.2876032  
##   
## Tuning parameter 'min.node.size' was held constant at a value of 5  
## RMSE was used to select the optimal model using the smallest value.  
## The final values used for the model were mtry = 160, splitrule  
## = extratrees and min.node.size = 5.