

STAT1378: Analysis on Sydney Airbnb

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Section 1

Project Objectives

Analysis and Visualisation on Sydney Airbnb

Research questions

- What factors affect the price of the listing in Sydney?
- What is the average price per night for renting a listing in Sydney based on the property type?



Section 2

Dataset

Our data

- The data is sourced from the Inside Airbnb website, which hosts publicly available data from the Airbnb site.
- Link for the Airbnb Sydney dataset <http://insideairbnb.com/get-the-data.html>
- The data is in CSV format.

Section 3

Data Cleaning and Preprocessing

Data Overview

Number of columns in the original dataset:

```
## [1] 74
```

Columns relevant to our analysis

```
## [1] "neighbourhood_cleansed" "property_type"      "room_type"
## [4] "accommodates"          "bedrooms"           "beds"
## [7] "price"                  "number_of_reviews"  "review_scores_rating"
```

Appropriate datatype - Price

The **price** attribute is in character format, so we have transformed it to double

```
## [1] "character"
```

```
## [1] "to"
```

```
## [1] "double"
```


Dropping null values

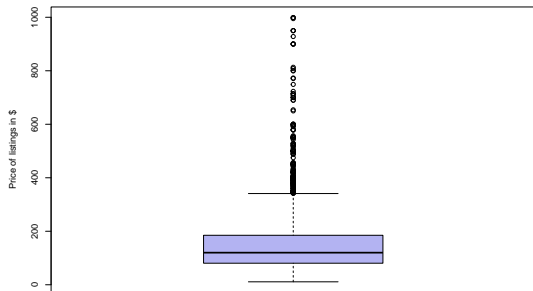
```
## [1] "Count of missing values by column"
```

```
## neighbourhood_cleansed      property_type      room_type
##                0                0                0
##      accommodates      bedrooms      beds
##                0                654            65
##      price      number_of_reviews      review_scores_rating
##                29                0            1637
```

Outliers

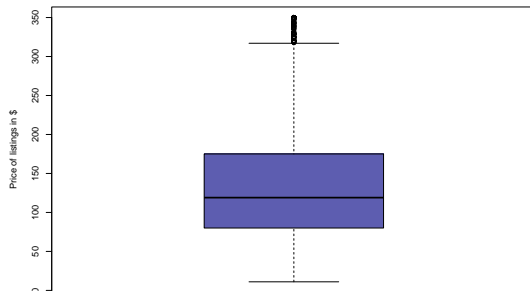
Records before dropping outliers

[1] 4475



Records after dropping outliers

[1] 4283



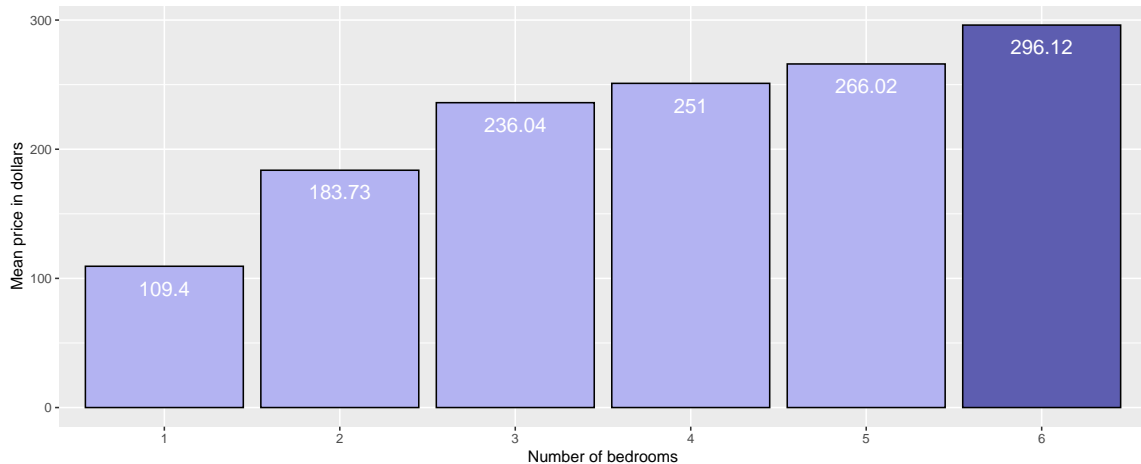
Section 4

Data Analysis and Visualisation

Price VS Bedrooms

Bedrooms vs Price

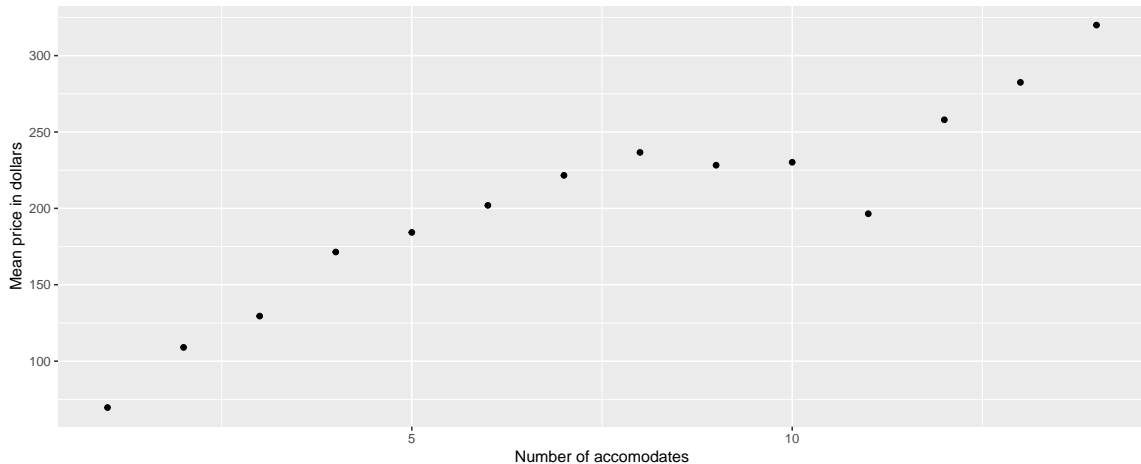
Price increases with the number of bedrooms in the listing



Price VS Accommodates

Accommodates vs Price

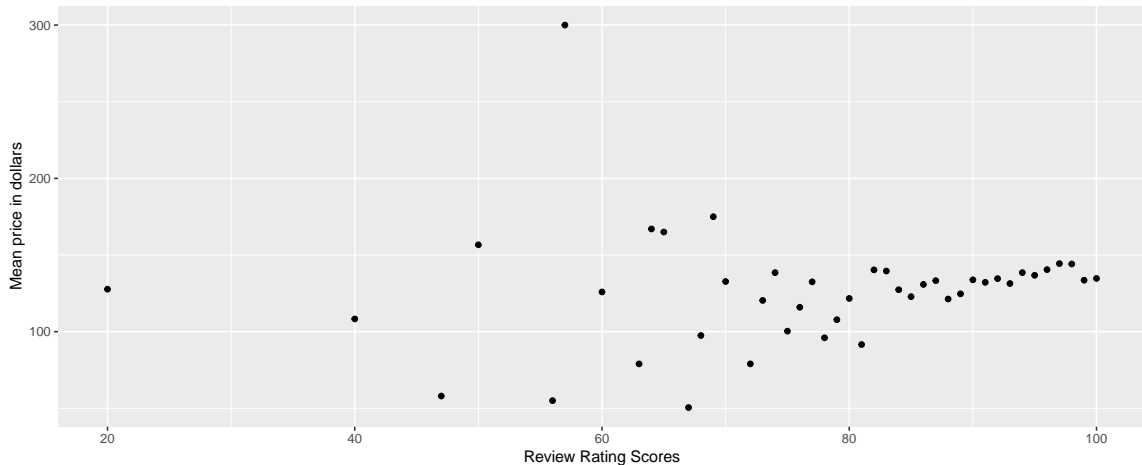
Price increases with the number of people living in the airbnb



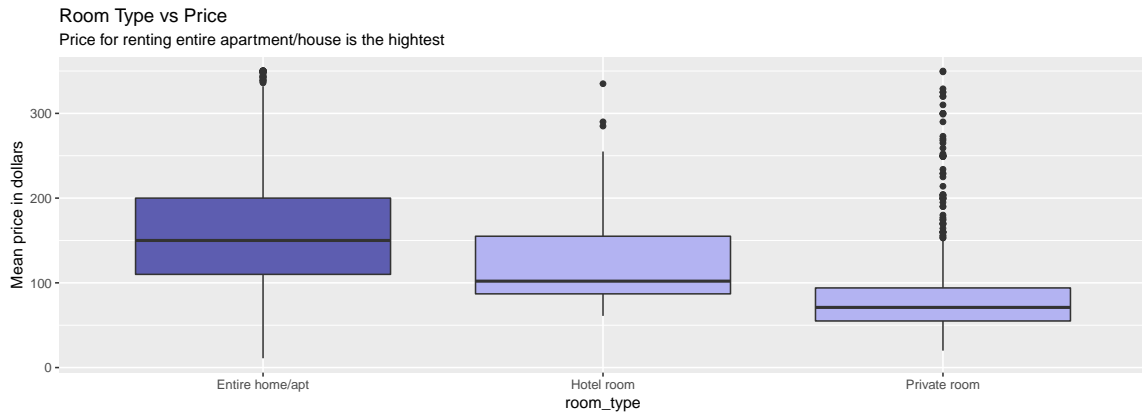
Price VS Review Ratings

Review Ratings vs Price

Price does not depend on Review Rating scores of the customers



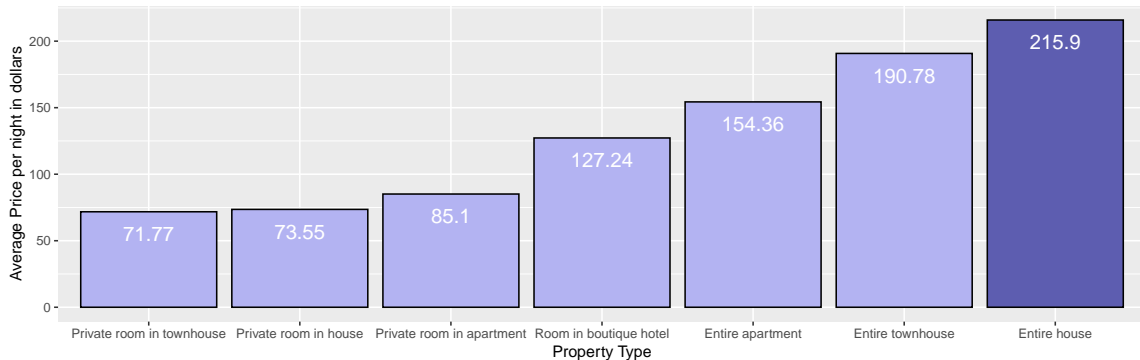
Price VS Room Types



Average Price for different Property Types

Average Price comparison for Property Types

Entire house has the highest average price



Factors affecting Price



Section 5

Analysis Conclusion

Conclusion

- 1 The correlation and bar plots suggest that factors which affect the price of the listing in Sydney are:
 - ▶ Property type
 - ▶ Room type
 - ▶ Bedrooms
 - ▶ Accommodates
 - ▶ Beds
- 2 The bar plot suggests that the average price for renting an entire house is the highest among all the listings which approximately \$215 per night. . Followed by entire townhouse, and apartment. Also, renting a private room in a boutique hotel costs more than renting a private room in house or an apt.