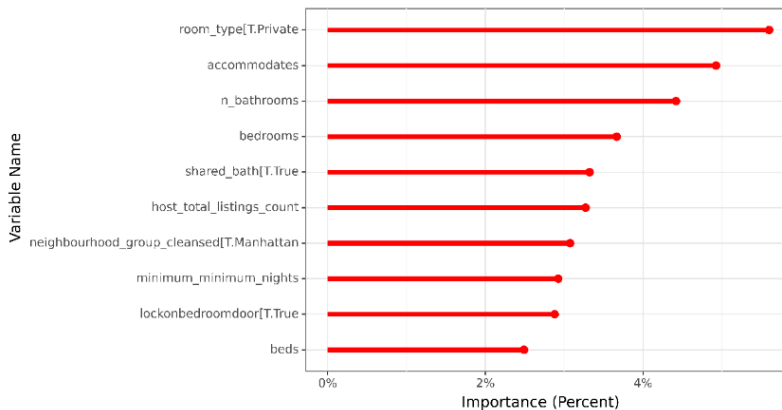


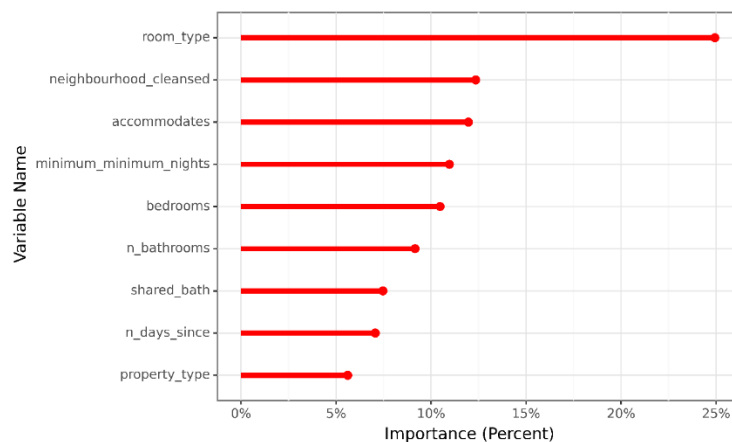
## Summary report

In this assignment, I predicted the prices of Airbnb apartments in New York, extracted from [insideairbnb.com](https://insideairbnb.com). The codes and analyses can be found at [https://github.com/Dilnovoz/Data-Analysis-3/tree/main/Assignment\\_2](https://github.com/Dilnovoz/Data-Analysis-3/tree/main/Assignment_2).

Based on given information on the website, relevant features are selected and cleaned for analyses. These features can be grouped into 4 classifications. First group of variables can present apartment related factors including number of bedrooms, offered room type, number of bathrooms and the number/type of amenities offered. Second group features can present the importance of neighborhood and location of the apartment. Third group of factors are host specific informations like if he has other listings, or his account is verifiable. The last group can show the importance of previous guests opinions on the price of the apartment offered.



As these analyses are estimated to predict the small apartment prices that can host 2-6 individuals, these restrictions are also introduced to the dataset too before predicting the model. Random Forest model is selected using RMSE scores among 4 tested



models used to predict the target values. According to model diagnostics, private room apartments, the number of accommodates it can offer, number of bathrooms and bedrooms are determining factors of apartment rental prices. Furthermore, from grouped factor contribution to explain the price changes we can see

that the room type is one of the most important feature explaining 25 percent of price variation of the apartments. It is followed by in which neighborhood apartment is located. Location of the apartment explains 14 percent of the variation of the prices in New York. We can also notice that host related information and reviews of the previous guests are not most relevant price determining features. Most important factors are accommodation itself related features

Partial diagnostics analyses show that on average, entire apartment has the highest price while private room has the lowest price. Shared rooms are relatively higher priced, costs are shared by several individuals I assume. Additionally, as we can see that price is increasing with accommodates it can include while marginal price increase is not the same across different group of apartments.

Lastly, our analyses also showed that features that are predicting the price of apartments in New York are quite similar to apartments in London. Most important features are quite similar in both of the cities' Airbnb apartment price determination.

