Houses for the mafia

EDA project - neue fische

Max Langer

The stakeholder

- *Amy Williams* is an italian mafiosi

- works in King County (Washington, USA)

- sells central houses

  - is interested only the top 10% of the houses

- needs average houses in the outskirts

  - to hide from the FBI from time to time

zdf.de

The data set

- information on houses in King County (Washington, USA)

- includes houses with sales dates from 2014 and 2015

- contains information such as
  - location
  - prices
  - number of rooms
  - square footages
  - grade and condition rating of King County

govtech.com

Quality of the data

- the data quality was ok for most of the information

- missing entries could be filled in by understanding the data

- such information were

  - viewings by buyers
  - whether the house has a view on the water
  - the year of the last renovation

- a few outliers could also be found

iqint.org

The challenge

- What is a central, what an outskirt house?

- What makes up the top 10% of houses?

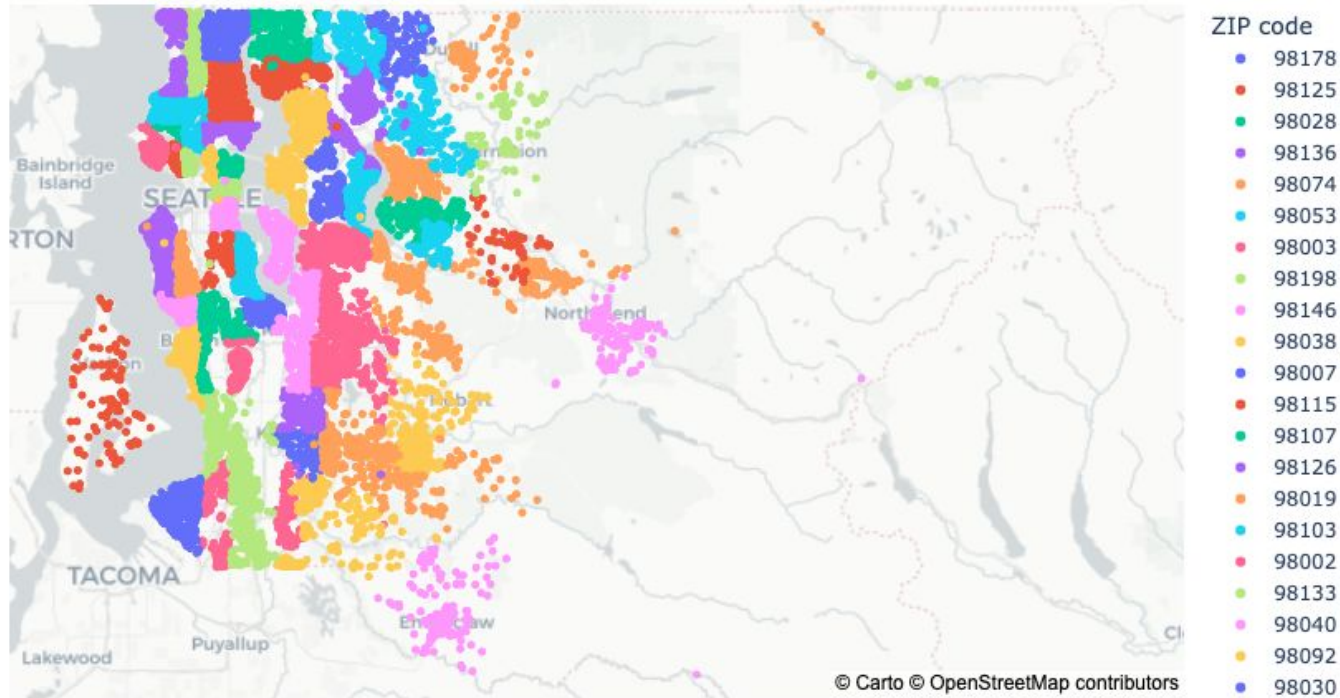- What makes an average outskirt house?

istockphoto.com

What is a central, what an outskirt house?

- Does the ZIP code define an outskirt or central house?

  - **Hypothesis:** Outskirt and central houses can be distinguished by their ZIP code
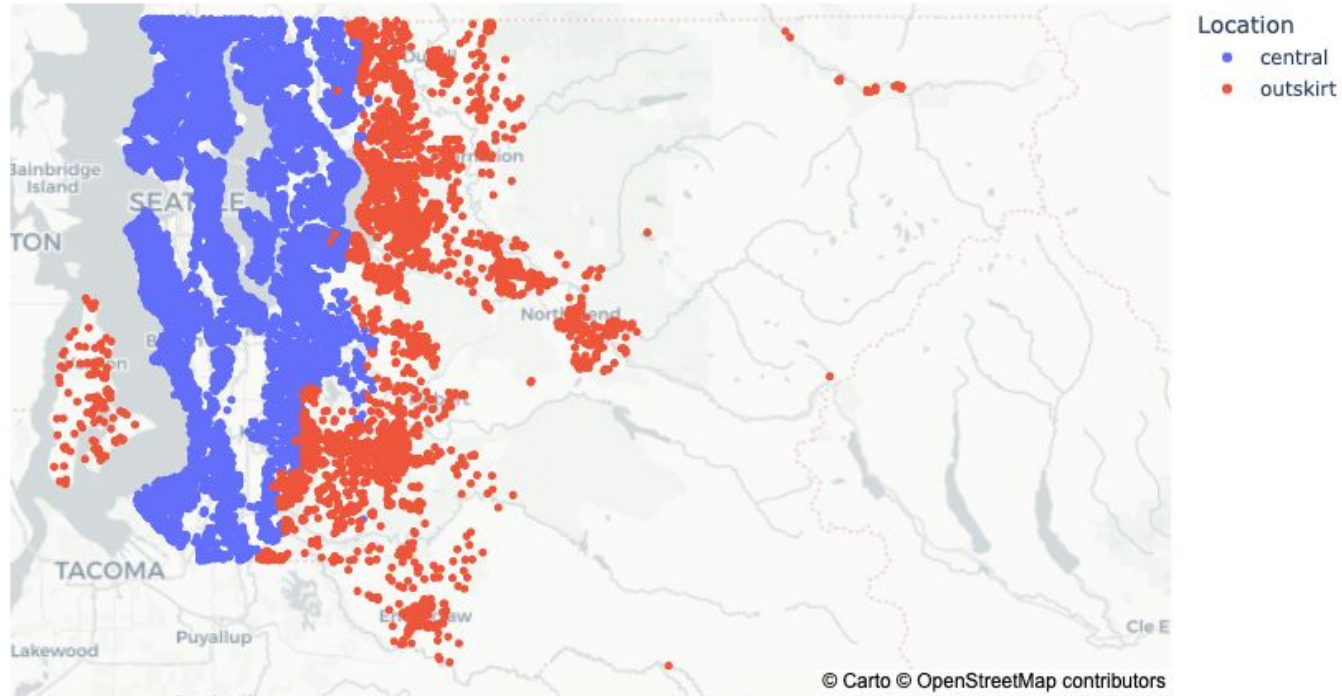
res.cloudinary.com

Does the zip code define a central or outskirt house?

Central and outskirt houses

What is a central, what an outskirt house?

- Does the ZIP code define an outskirt or central house?
    - **Answer:** Yes, they can be distinguished by ZIP code

res.cloudinary.com

# What is a central, what an outskirt house?

- Is the number of houses in the central area higher than in the outskirt area?

    - **Hypothesis:** There are more houses in the central area

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What is a central, what an outskirt house?

- Is the number of houses in the central area higher than in the outskirt area?
  - **Answer:** Yes, there are more houses in the central area

Number of central and outskirt houses
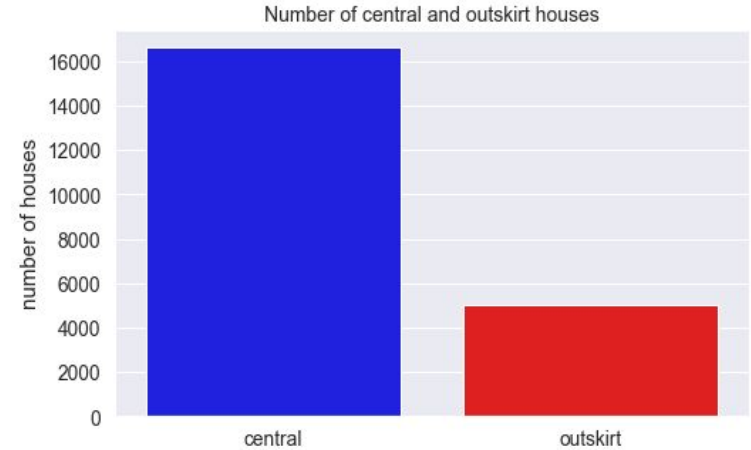
What makes up the top 10% of houses?

- Do the grading, condition rating and living space impact the prices?
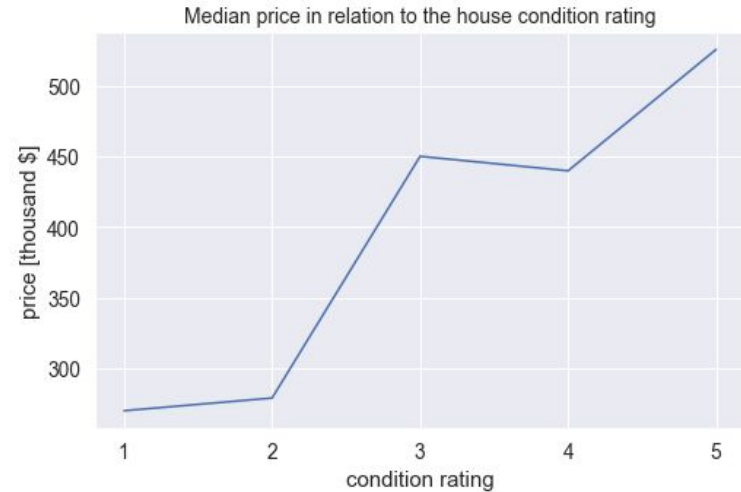 - **Hypothesis:** A better grade, condition rating and larger living space increase the price

luxuryhomemagazine.com

Impact of grade and condition on the price

Median price in relation to the house grade

correlation coefficient between price and grade: 0.66

correlation coefficient between price and condition rating: 0.018

Impact of living space on the price

correlation coefficient between price and living space is:

- 0.717 for central houses
- 0.782 for outskirt houses

What makes up the top 10% of homes?

- Do the grading, condition rating and living space impact the prices?

  - **Answer:**
    - Yes, a higher grade and larger living space correlate with the price of a house
    - No, condition is only a minor factor

luxuryhomemagazine.com
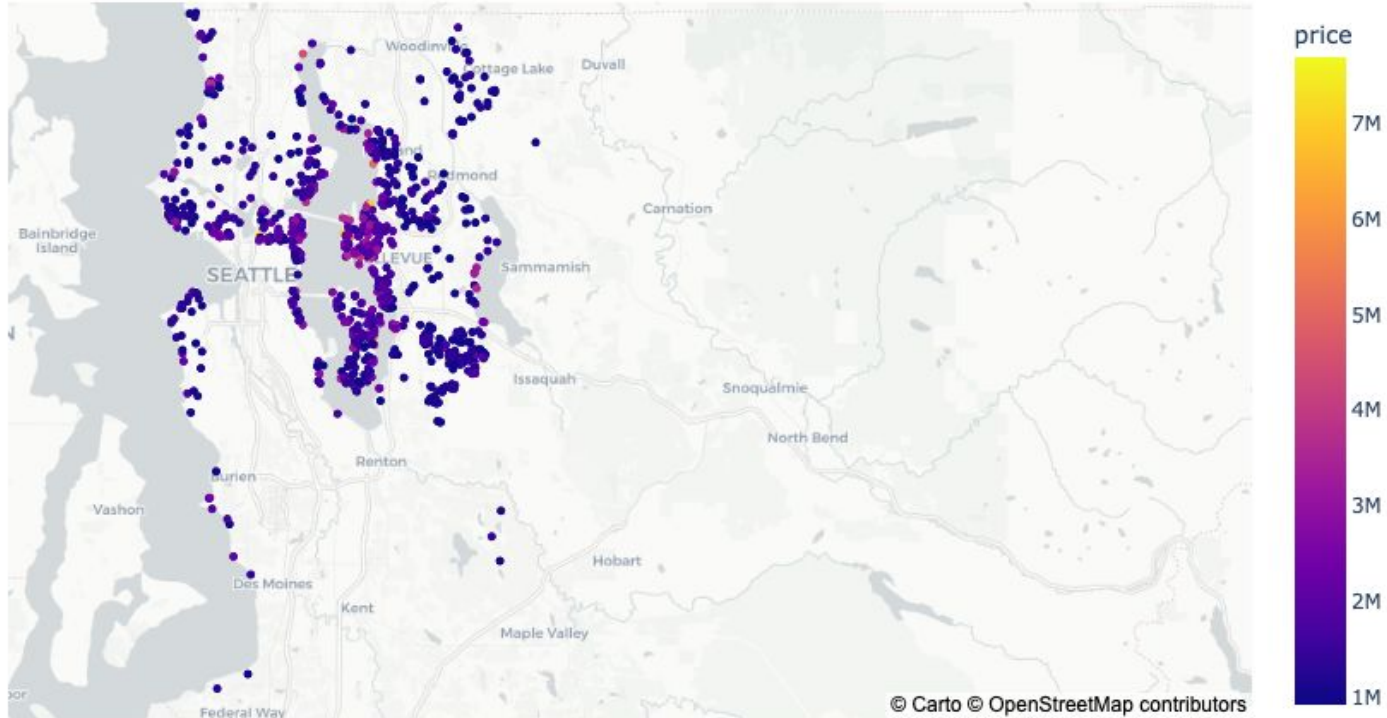
What makes up the top 10% of houses?

- Three recommendations to find central houses that are in the top 10%

    - house prices higher than 920000$
    - grades of 9 or higher
    - a minimum of 3140 sqft living space

luxuryhomemagazine.com

These are the top 10% of homes

What makes an average outskirt house?

- Does the average price differ between outskirt and city houses?

  - **Hypothesis:** Houses in central areas are in average pricier

- Is the average grade lower in the outskirts?

  - **Hypothesis:** Houses in the outskirt areas have overall lower grades

- Do outskirt houses have more lot than central houses?

  - **Hypothesis:** Houses in the outskirt areas have more lot

minimalblogs.com

Price and grade between central and outskirt
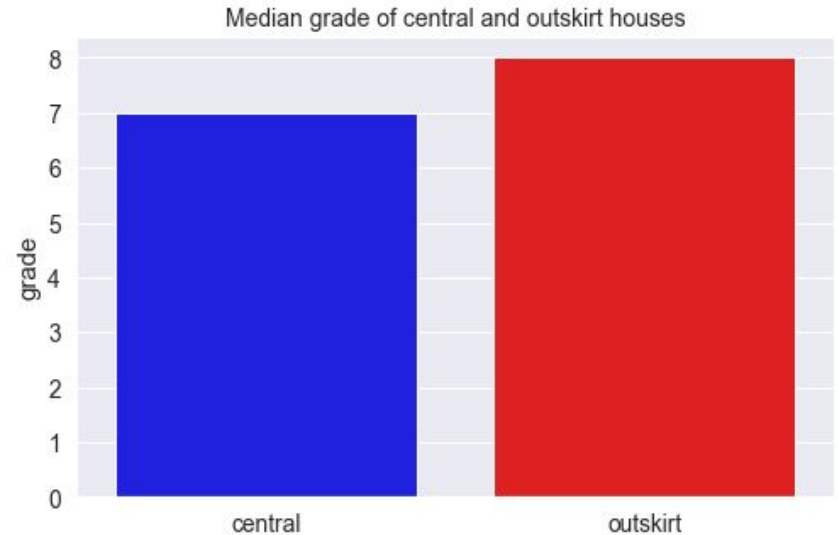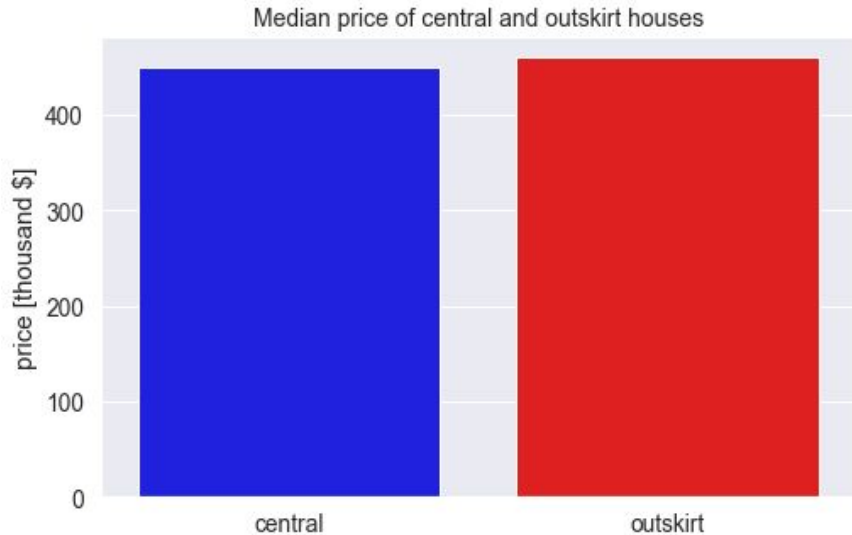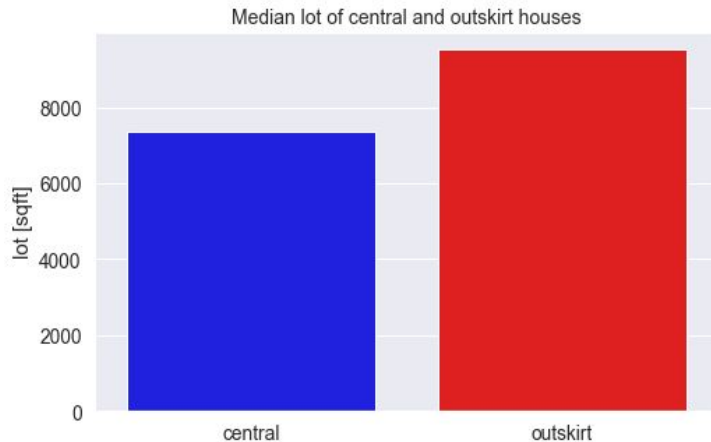
What makes an average outskirt house?

- Does the average price differ between outskirt and central houses?
    - **Answer:** No, house in outskirt and central areas are in the same price range

- Is the average grade lower in the outskirts?
    - **Answer:** No, outskirt houses are in general one grade higher

minimalblogs.com

What makes an average outskirt house?

- Do outskirt houses have more lot than central houses?

  - **Answer:** Yes, houses in the outskirt have more lot

Median lot of central and outskirt houses
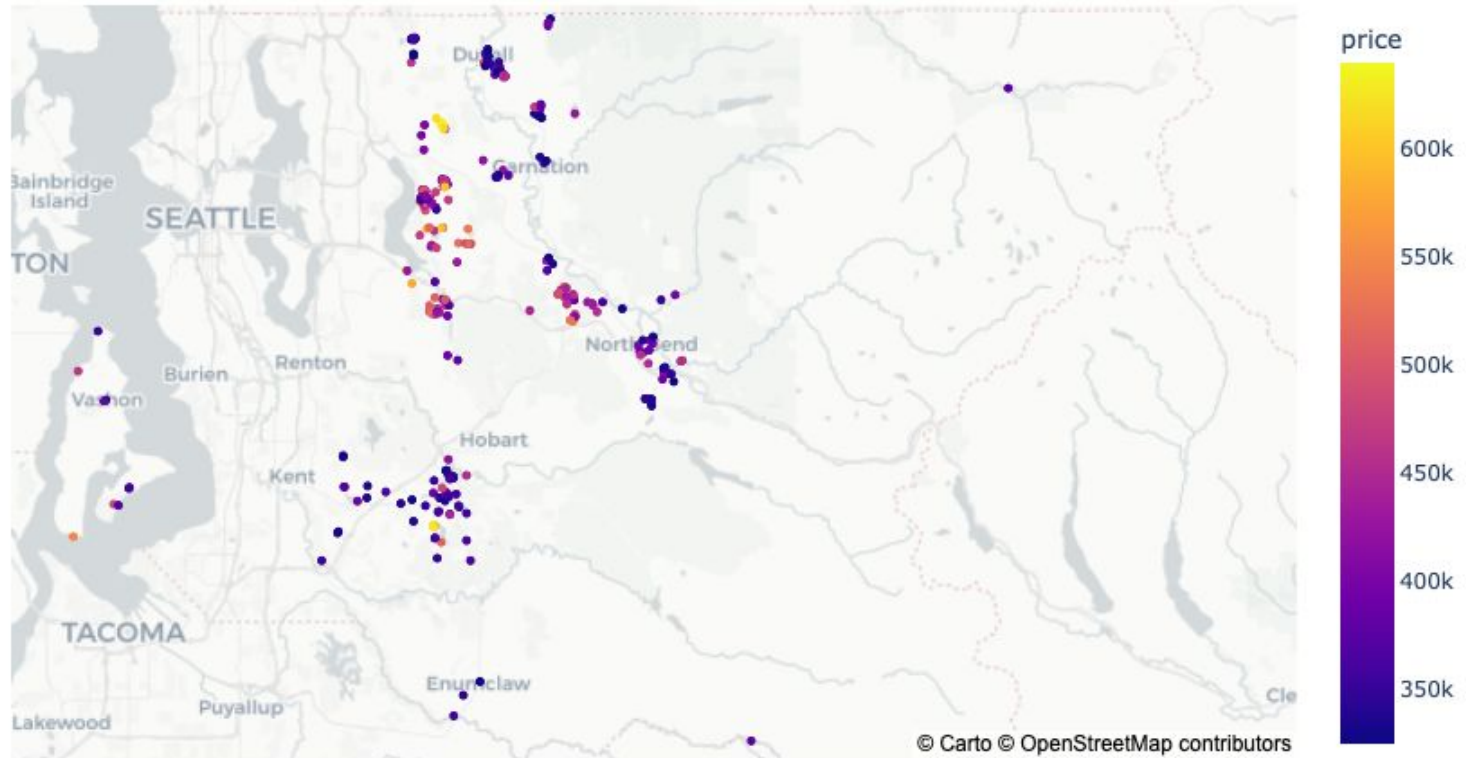
What makes an average outskirt house?

- Three recommendations to find an average outskirt house?
  - house prices of around 460000$
  - grades of 8
  - lot of around 9500 sqft

minimalblogs.com

The average outskirt houses

Conclusion and outlook

- could help Amy to find objects to buy/sell and also to hide in

- a different approach could be used for
  - distinguishing between outskirt and central
  - based on the latitudinal and longitudinal data

- the view of water has not been considered as a factor yet
  - but seems to play a role for the top 10% houses

tripadvisor.com