

Helping parents choose the perfect neighborhood for their needs

Nadav Tzuk
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Problem and Interset

- ▶ Problem

How can a machine learning model can help to choose the most suitable place to live

- ▶ Interset

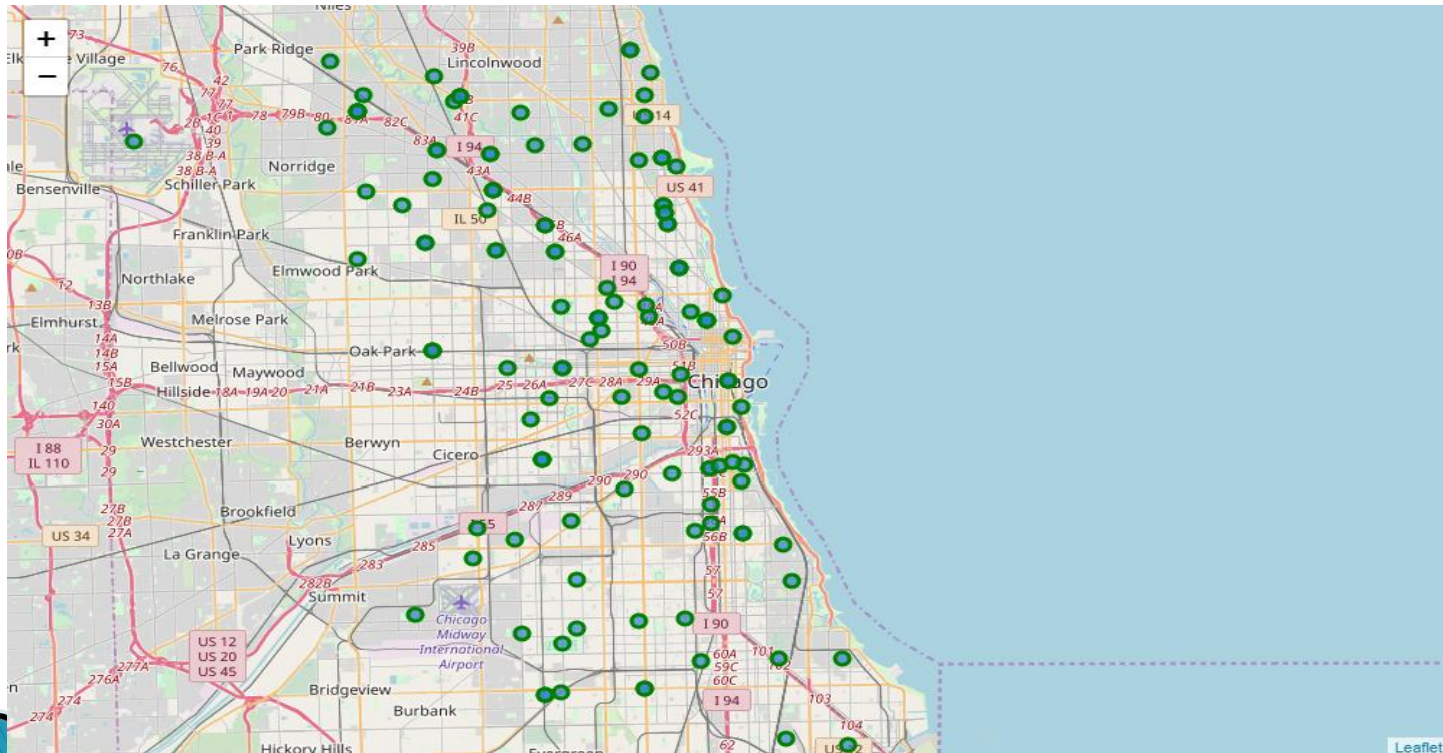
Parents that are looking for an apartment

Data collecting

- ▶ List of neighborhoods
 - ▶ Coordinates
 - ▶ Forsquare
 - Education: Daycare, Preschool, Elementary School, High School
 - Health: Pharmacy, Hospital, Doctors Office, Dentists Office
 - Shopping: Grocery Store, Baby Store, Shopping Mall, Shopping Plaza
 - Recreation: Coffee Shop, Bar, Gym, Park
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Exploratory Data Analysis

- ▶ There are 159 neighborhoods in Chicago
- ▶ For each neighborhood – places that are walking distance

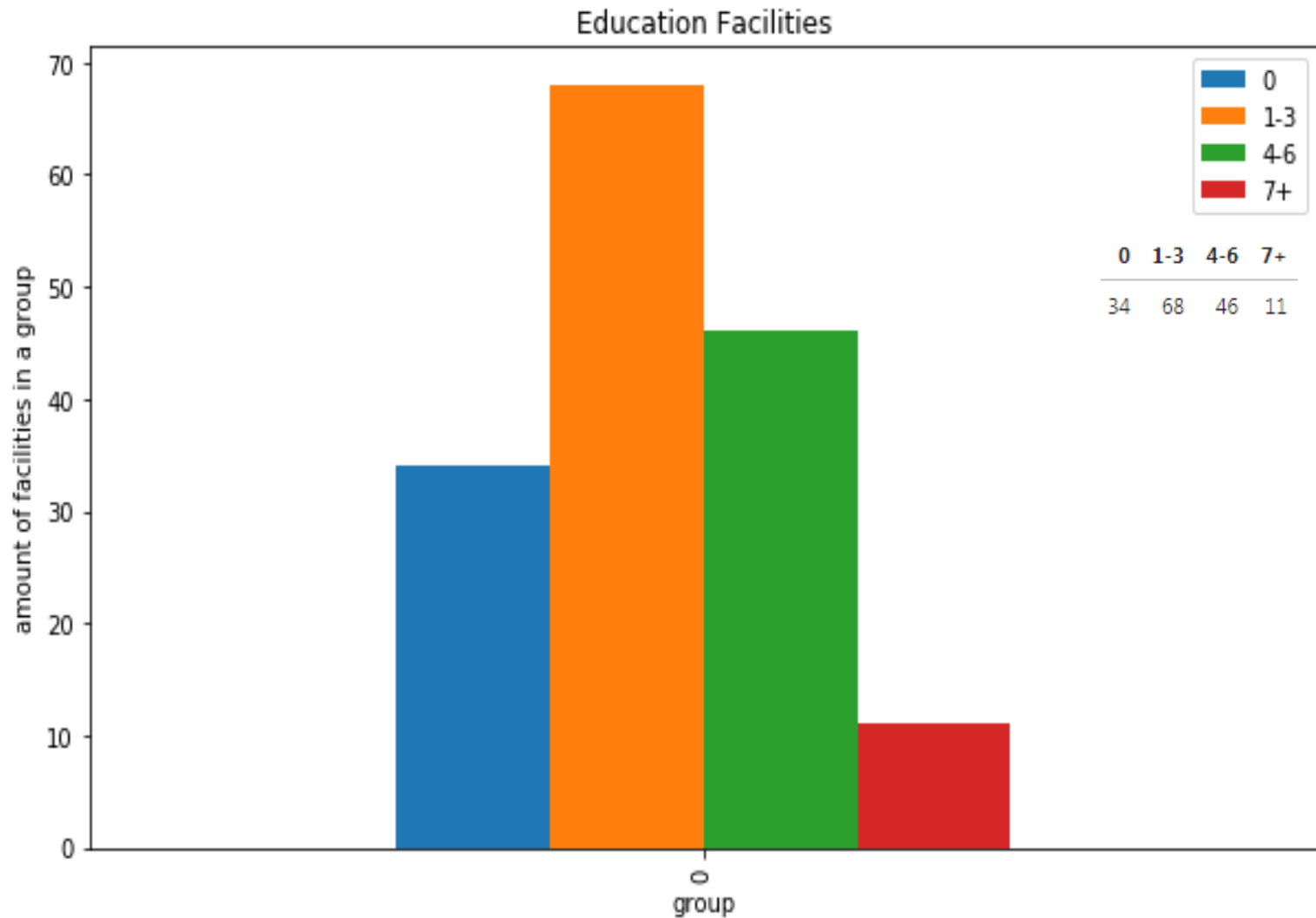


* Map of Chicago with neighborhoods green markers

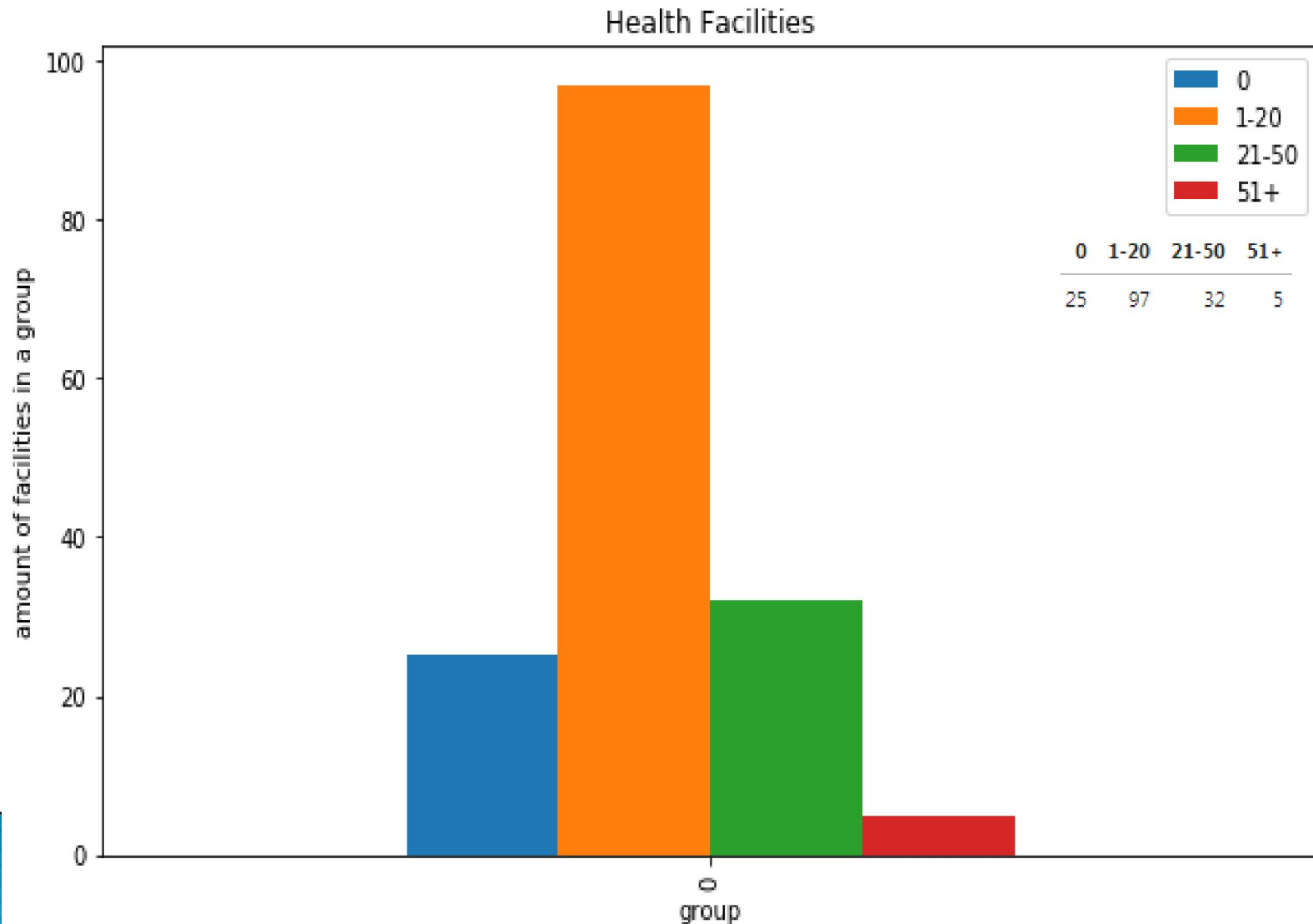
Descriptive statistics

	Education	Health	Shopping	Recreation
count	159.000000	159.000000	159.000000	159.000000
mean	2.691824	13.371069	2.226415	22.735849
std	2.330181	19.227339	2.508024	28.788722
min	0.000000	0.000000	0.000000	0.000000
25%	1.000000	2.000000	0.000000	5.000000
50%	2.000000	6.000000	1.000000	10.000000
75%	5.000000	18.000000	3.000000	27.500000
max	9.000000	155.000000	14.000000	136.000000

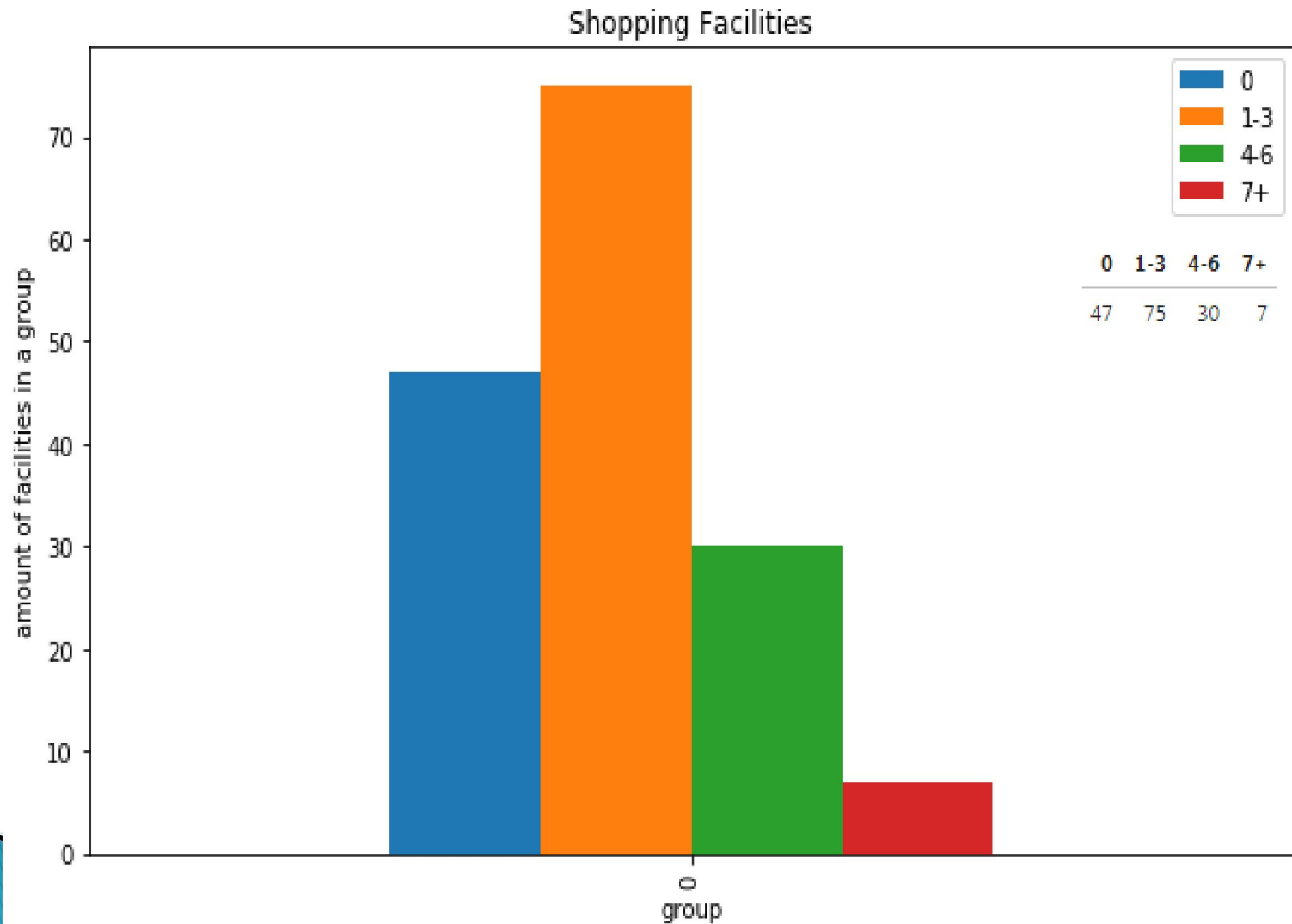
Education



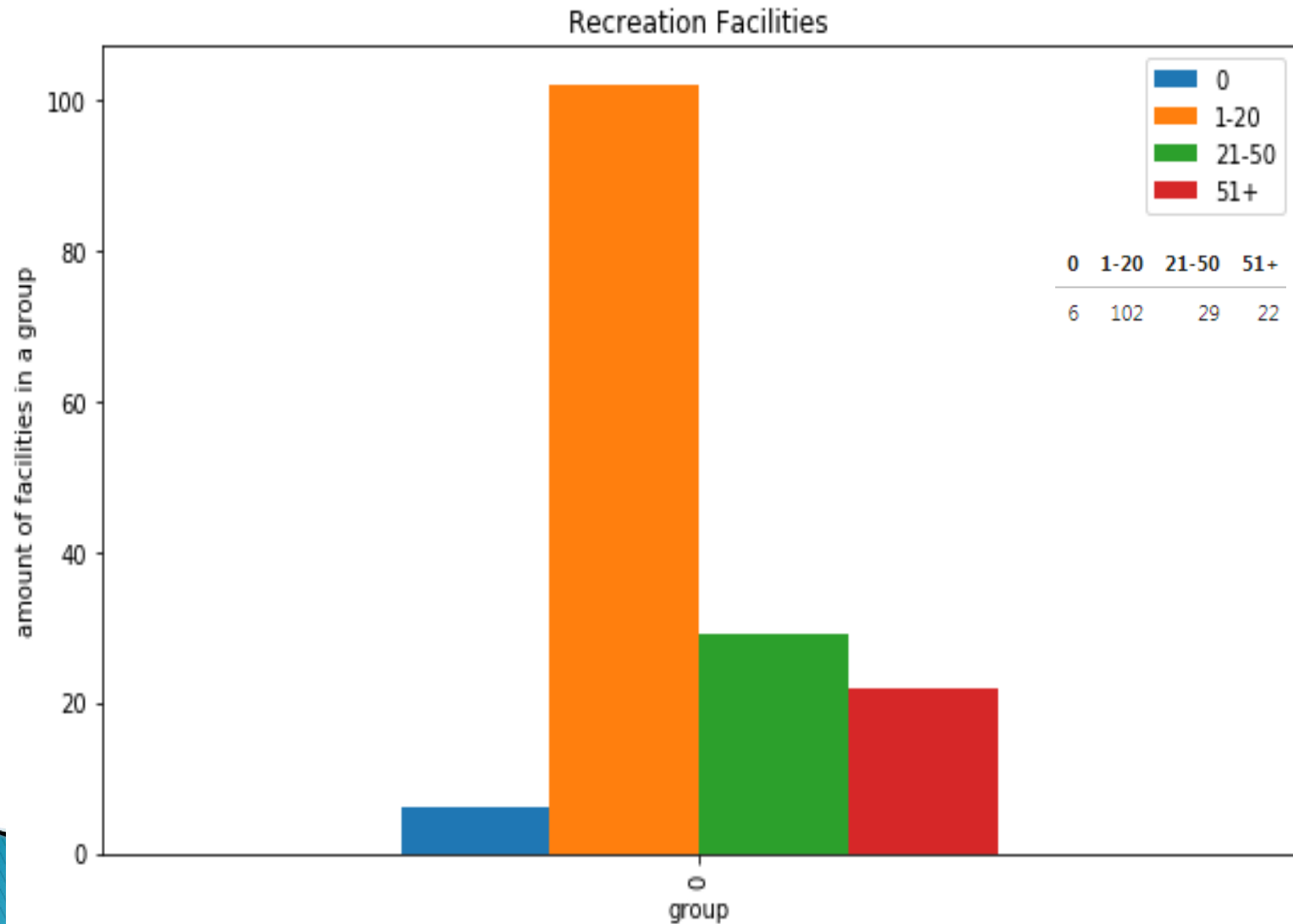
Health



Shopping



Recreation



Machine learning model

- ▶ The k-means model was chosen
- ▶ Neighborhoods split into three clusters

Results

- ▶ low amount of facilities
- ▶ Middle amount of facilities
- ▶ High of amount facilities

	Education	Health	Shopping	Recreation
Labels				
0	3.416667	18.722222	3.972222	29.638889
1	2.174757	4.980583	0.922330	7.941748
2	4.050000	46.950000	5.800000	86.500000

	Education	Health	Shopping	Recreation
Labels				
0	36	36	36	36
1	103	103	103	103
2	20	20	20	20

Conclusion

- ▶ parents can easily choose the neighborhood they prefer in accordance to the facilities in the preferred cluster
 - ▶ future studies – more properties: rent prices, socio-economic status, age of population and more
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