"weka.core.EuclideanDistance -R first-last" -I 500 -S 10 Relation: HousePrice\_data Instances: 4600 Attributes: 18 date price bedrooms bathrooms sqft\_living sqft\_lot floors waterfront view condition sqft\_above sqft\_basement yr\_built yr\_renovated street city statezip country

[12:30 AM, 1/11/2023] 😂: Scheme:weka.clusterers.SimpleKMeans -N 2 -A

Test mode:evaluate on training data

=== Model and evaluation on training set ===

### kMeans

=====

Number of iterations: 7

Within cluster sum of squared errors: 17589.525287978548

Missing values globally replaced with mean/mode

# Cluster centroids:

### Cluster#

| clusterii |                  |              |        |                  |  |
|-----------|------------------|--------------|--------|------------------|--|
| Attribute | Full Data        | 0            | 1      |                  |  |
|           | (4600)           | (2679)       | (1921) |                  |  |
|           |                  |              | =====  |                  |  |
|           | ====             |              |        |                  |  |
| date      | 23-06-2014 00:00 | 08-07-2014 0 | 00:00  | 07-05-2014 00:00 |  |
| price     | 551962.9885      | 568952.1413  | 3      | 528270.1512      |  |

| price       | 551962.9885 | 568952.1413 | 528270.1512 |
|-------------|-------------|-------------|-------------|
| bedrooms    | 3.4009      | 3.4472      | 3.3363      |
| bathrooms   | 2.1608      | 2.312       | 1.95        |
| sqft_living | 2139.347    | 2250.5218   | 1984.304    |
| sqft_lot    | 14852.5161  | 15714.2027  | 13650.8199  |
| floors      | 1.5121      | 1.6336      | 1.3425      |
| waterfront  | 0.0072      | 0.0071      | 0.0073      |
| view        | 0.2407      | 0.2281      | 0.2582      |
| condition   | 3.4517      | 3.5405      | 3.328       |
| sqft_above  | 1827.2654   | 1957.2221   | 1646.0297   |

sqft\_basement 312.0815 293.2997 338.2743

yr\_built 1970.7863 1979.193 1959.0625

yr\_renovated 808.6083 19.1926 1909.5164

street 2520 Mulberry Walk NE 2520 Mulberry Walk NE 35229 SE Terrace St

city Seattle Seattle Seattle

statezip WA 98103 WA 98103 WA 98034

country USA USA USA

Time taken to build model (full training data): 0.11 seconds

=== Model and evaluation on training set ===

**Clustered Instances** 

0 2679 (58%)

1 1921 ( 42%)

[1:18 AM, 1/11/2023] (a): === Run information ===

Scheme:weka.clusterers.EM -I 100 -N -1 -M 1.0E-6 -S 100

Relation: crime

Instances: 47

Attributes: 8

| , ,       | -ui  |
|-----------|--|
| Po        | opulation  |
| M         | lurder   |
| Ra        | аре  |
| Ro        | obbery   |
| As        | ssault   |
| Ві        | urglary  |
| Ca        | arTheft  |
| Test mod  | e:evaluate on training data                          |
| === Mode  | el and evaluation on training set ===                |
| EM<br>==  |  |
| Number o  | of clusters selected by cross validation: 5  Cluster |
| Attribute | 0 1 2 3 4  |
|           | (0.26) (0.13) (0.36) (0.11) (0.15)                   |
| Yearmear  |  |

Year

### Population

mean 19289794.1667 18035409.6788 17881041.974 18165920.2042 18240390.4563

std. dev. 160346.5501 101493.8891 248964.7389 24977.5465 110418.0323

#### Murder

mean 874.9167 2413.834 1973.7646 1164.6 1212.8533

std. dev. 62.0396 140.5813 128.9 251.188 324.551

### Rape

mean 3250.4167 5222.3324 5187.2304 3989 2707.5683

std. dev. 441.2481 161.8788 377.3213 258.849 290.3994

### Robbery

mean 33396.75 106069.1992 93395.4876 56670.798 57417.4533

std. dev. 3707.4057 5447.0007 10310.3002 9992.3401 24323.9592

#### Assault

mean 48221.3333 89751.8278 61470.1658 64743.7988 34452.236

std. dev. 5417.1056 2289.2575 10316.9741 5207.2629 5032.6828

# Burglary

mean 71016.0833 202959.7771 269802.6448 118546.7964 234185.4531

std. dev. 7280.2331 12052.4815 51879.9057 18666.3922 32520.6333

### CarTheft

mean 34908.9167 169109.0575 121974.5885 79724.9971 97171.7993 std. dev. 11617.2257 13034.3403 11011.47 15625.6976 26425.6258

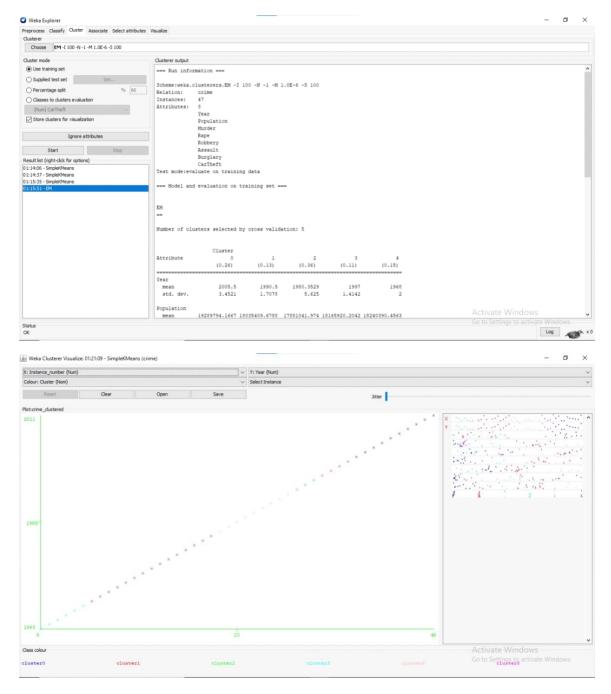
Time taken to build model (full training data): 0.2 seconds

=== Model and evaluation on training set ===

# **Clustered Instances**

- 0 12 ( 26%)
- 1 6 (13%)
- 2 17 (36%)
- 3 5 (11%)
- 4 7 (15%)

Log likelihood: -73.74065



Scheme:weka.clusterers.SimpleKMeans -N 2 -A "weka.core.EuclideanDistance -R first-last" -I 500 -S 7

Relation: crime

Instances: 47

Attributes: 8

Year

Population

Murder

Rape

Robbery

Assault

Burglary

CarTheft

Test mode:evaluate on training data

=== Model and evaluation on training set ===

kMeans

=====

Number of iterations: 4

Within cluster sum of squared errors: 13.381520067955652

Missing values globally replaced with mean/mode

Cluster centroids:

Cluster#

Attribute Full Data 0 1

(47) (21) (26)

\_\_\_\_\_

Year 1988 1994.8095 1982.5

Population 18344255.6596 18822482.4286 17957995.5769

Murder 1549.9787 952.1429 2032.8462

Rape 4200.4255 3214.9048 4996.4231

Robbery 70429.2979 39748.381 95210.0385

Assault 58022.234 47034.619 66896.8462

Burglary 189119.8298 114118.4286 249697.8846

CarTheft 97573.5532 54371.8095 132467.2692

Time taken to build model (full training data): 0 seconds

=== Model and evaluation on training set ===

**Clustered Instances** 

- 0 21 (45%)
- 1 26 (55%)