



# HW 06

## Customer Segmentation

BADS7105 – CRM Analytics and Intelligence  
Watcharaphan Watcharanggurpipat

01

# SQL Script running in Google Big Query

## Query editor

```
1 CREATE OR REPLACE MODEL `hw-06-315709.supermarket.Kmean_analysis_CLUSTERS`  
2 OPTIONS( MODEL_TYPE='KMEANS',NUM_CLUSTERS=5,KMEANS_INIT_METHOD='RANDOM')  
3 AS SELECT*FROM`hw-06-315709.supermarket.Kmean_analysis`
```

02

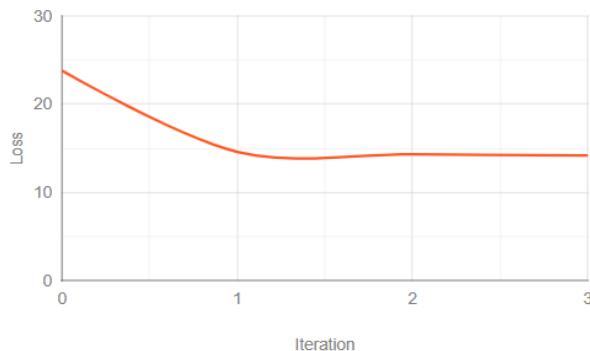
## Training Result - Graph

Kmean\_analysis\_CLUSTERS

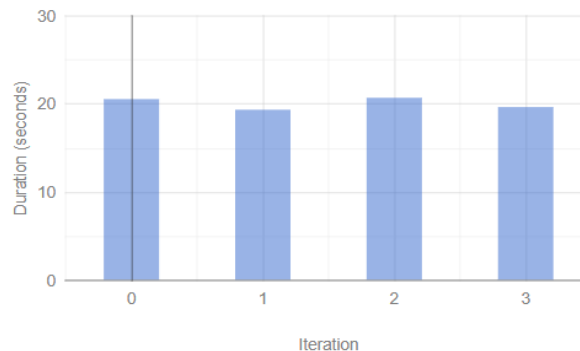
Details Training Evaluation Schema

View as ☒ Graphs ☐ Table

Loss



Duration (seconds)



## 02 Training Result - Table

Iteration	Training Data Loss	Duration (seconds)	Cluster Centroid Id	Cluster Radius	Cluster Size
3	14.1703	19.78	1	3.617385820609259	196447
			2	3.7250396575815796	210939
			3	3.6590112454922012	181470
			4	4.11214072021859	218081
			5	3.600743023049611	149637
2	14.3115	20.80	1	3.628487936155767	195378
			2	3.777872424244597	243265
			3	3.6856863315203063	182745
			4	4.1390139065286045	194013
			5	3.6097449740666567	141173

1	14.5916	19.43	1	3.671760714901501	175147
			2	3.8715882613683434	279005
			3	3.7286670047079915	166107
			4	4.066972068053937	199192
			5	3.6336348740602227	137123
0	23.8137	20.65	1	4.824469879339381	91689
			2	4.969827704686875	298189
			3	4.845007800408888	116712
			4	4.909902192811884	306812
			5	4.686357935608631	143172

# 03 Evaluation

## Kmean\_analysis\_CLUSTERS

[QUERY MODEL](#)[DELETE MODEL](#)[↑ E](#)[Details](#) [Training](#) [Evaluation](#) [Schema](#)

### Metrics

Davies-Bouldin index	3.9674
Mean squared distance	14.0590

### Numeric features

This table shows the centroid value for each feature. Use the select menu to view more numeric features.

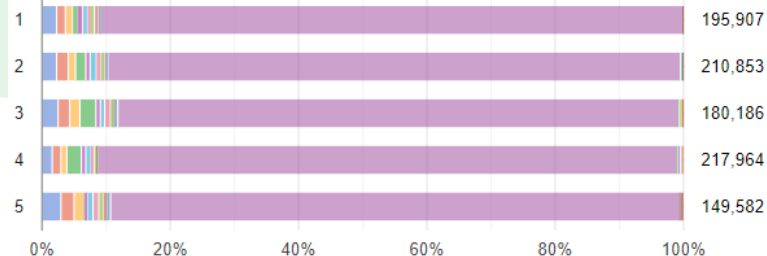
Select features (6/7) ▾

Centroid Id	Count	SHOP_WEEK	SHOP_DATE	SHOP_WEEKDAY	SHOP_HOUR	QUANTITY	SPEND
1	196447	<div><div></div></div> 200,626.3586	<div><div></div></div> 20,061,164.7596	<div><div></div></div> 3.4624	<div><div></div></div> 12.9984	<div><div></div></div> 1.4690	<div><div></div></div> 1.7753
2	210939	<div><div></div></div> 200,784.6220	<div><div></div></div> 20,078,768.9995	<div><div></div></div> 4.6153	<div><div></div></div> 16.0038	<div><div></div></div> 1.4752	<div><div></div></div> 1.8441
3	181470	<div><div></div></div> 200,734.5976	<div><div></div></div> 20,072,865.5891	<div><div></div></div> 2.9720	<div><div></div></div> 13.0123	<div><div></div></div> 1.3594	<div><div></div></div> 1.4920
4	218081	<div><div></div></div> 200,708.4226	<div><div></div></div> 20,070,523.4482	<div><div></div></div> 4.0970	<div><div></div></div> 15.1550	<div><div></div></div> 1.8660	<div><div></div></div> 2.4190
5	149637	<div><div></div></div> 200,637.5501	<div><div></div></div> 20,063,090.2674	<div><div></div></div> 4.9181	<div><div></div></div> 18.0819	<div><div></div></div> 1.3059	<div><div></div></div> 1.6999

### PROD\_CODE

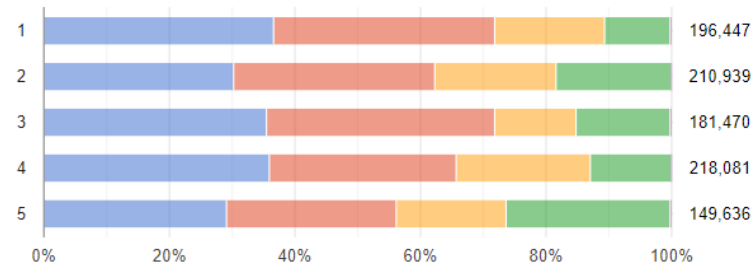
PRD0903052 PRD0904358 PRD0900121  
PRD0903678 PRD0903228 PRD0901265

1/3



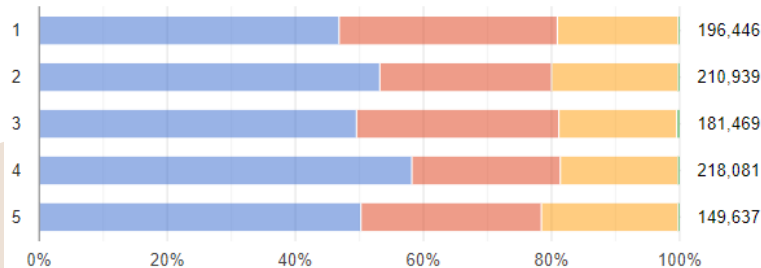
### CUST\_PRICE\_SENSITIVITY

MM LA UM \_null\_fillter XX



### BASKET\_PRICE\_SENSITIVITY

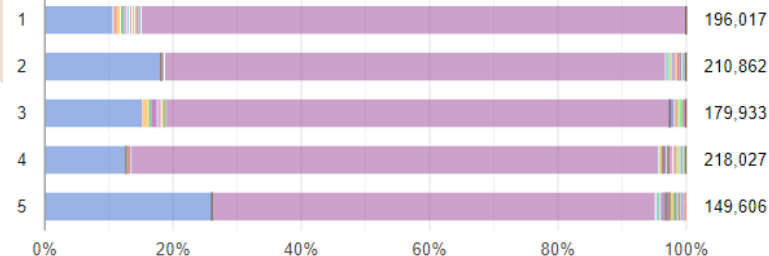
MM LA UM XX



### CUST\_CODE

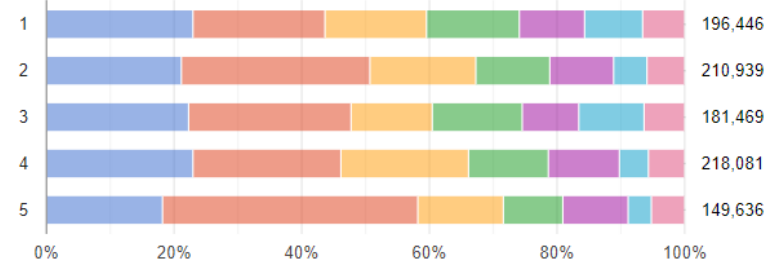
\_null\_fillter CUST0000836... CUST0000456...  
CUST0000121881 CUST0000123240

1/8



### CUST\_LIFESTAGE

OT \_null\_fillter YF OA YA PE  
OF



### BASKET\_TYPE

Top Up Full Shop Small Shop XX

