Homework 06
Customer Segmentation

BADS7105 – CRM Analytics and Intelligence
Yupalapas Panomvongkasem

SQL Script – KMEANS Model

```sql
1  CREATE OR REPLACE MODEL`homework06-segmentation.DB_SUPERMARKET.KMEAN_Analysis_CLUSTERS`
2  OPTIONS( MODEL_TYPE='KMEANS',NUM_CLUSTERS=3,KMEANS_INIT_METHOD='RANDOM')
3  AS SELECT*FROM`homework06-segmentation.DB_SUPERMARKET.KMEAN_Analysis`
```

Training result/1

Iteration	Training Data Loss	Duration (seconds)	Cluster Centroid Id	Cluster Radius	Cluster Size
2	14.7470	16.21	1	3.787933810962437	352499
			2	3.9849742026503567	334399
			3	3.7233268710405456	269676
1	14.8823	17.52	1	3.7884251557738673	354055
			2	4.000749141760916	358450
			3	3.7417710653723124	244069
0	25.8094	15.69	1	5.110557401632231	328656
			2	5.090213884531081	385620
			3	5.022990965220031	242298

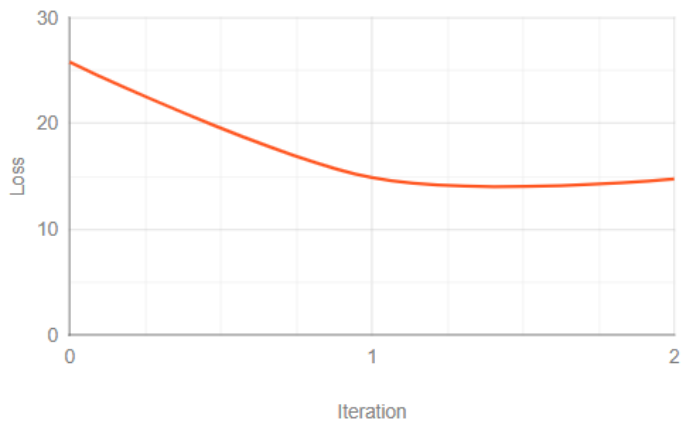# Training result/2

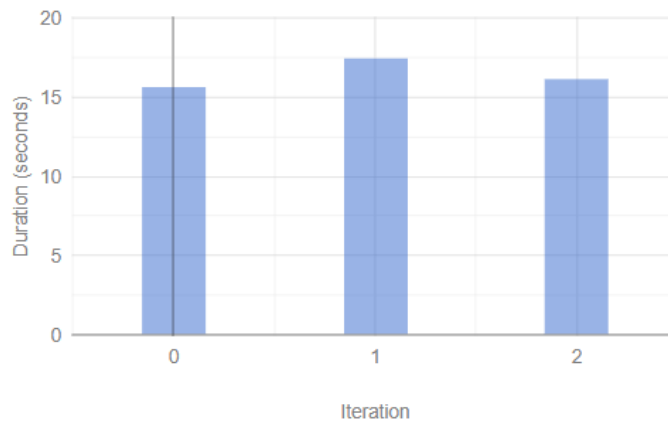KMEAN_Analysis_CLUSTERS

Details   **Training**   Evaluation   Schema

View as   ● Graphs   ○ Table

Loss

Duration (seconds)

Evaluation

Metrics

Davies–Bouldin index	3.9819
Mean squared distance	14.7239

Numeric features

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

Select features (3/7) ▾

Centroid Id	Count	SHOP_WEEK		SHOP_DATE		SHOP_WEEKDAY	
1	352499		200,629.0808		20,062,057.7335		4.0888
2	334399		200,764.8446		20,076,252.9616		4.7692
3	269676		200,720.2794		20,071,568.3461		2.9161

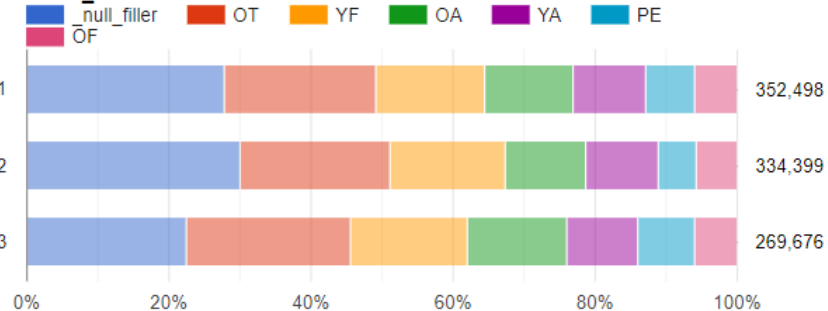| Centroid Id	Count	SHOP_HOUR		QUANTITY		SPEND	
1	352499		15.1003		1.4690		1.8859
2	334399		16.1885		1.5625		2.0675
3	269676		13.2202		1.5147		1.6103

Evaluation

Categorical features

Each chart below shows the category value distribution for a particular feature.
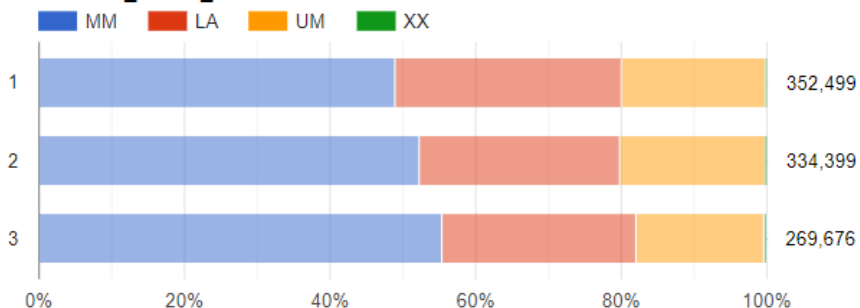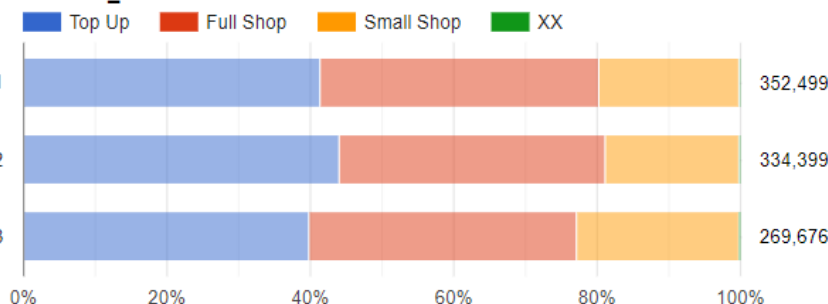Use the select menu to view more categorical features.

CUST_PRICE_SENSITIVITY
MM · LA · UM · _null_filler · XX

1	352,499
2	334,398
3	269,676

0% — 20% — 40% — 60% — 80% — 100%

CUST_LIFESTAGE
_null_filler · OT · YF · OA · YA · PE · OF

1	352,498
2	334,399
3	269,676

0% — 20% — 40% — 60% — 80% — 100%

BASKET_PRICE_SENSITIVITY
MM · LA · UM · XX

1	352,499
2	334,399
3	269,676

0% — 20% — 40% — 60% — 80% — 100%

BASKET_TYPE
Top Up · Full Shop · Small Shop · XX

1	352,499
2	334,399
3	269,676

0% — 20% — 40% — 60% — 80% — 100%

THANK YOU