



IARE
INSTITUTE OF
AERONAUTICAL ENGINEERING
(An Autonomous Institute affiliated to JNTU, Hyderabad)
Dundigal, Hyderabad - 500 043

LABORATORY WORK BOOK

Name of the Student : HIMAKAR C

Class : CSE - B Semester : VI

Course Code : ACIC08 Course Name : DMKD laboratory

Name of the Course Faculty : Dr. D. DURGA BHAVANI

Exercise Number : _____ Week Number : 06

Roll Number

2 1 9 5 1 A 0 5 6 5

Faculty ID : IARE10921

Date : 30/4/24

S. No.	Exercise Number	EXERCISE NAME	MARKS AWARDED					Viva - Voce	Total
			Aim/ Preparation	Algorithm / Procedure		Source Code	Program Execution		
				Performance in the Lab		Calculations and Graphs	Results and Error Analysis		
			4	4		4	4	4	20
1	6.1	Display top 5 rows of data	4	4		4	4	4	20
2	6.2	Find the rules with min-confidence: 0.2							
3		min-support = 0.045							
4		min-lift = 3							
5		min-length = 2							
6									
7									
8									
9									
10									
11									
12									


Signature of the Student


Signature of the Faculty

6.1 Display top 5 rows of data

```
import pandas as pd
```

```
d = pd.read_csv('transactions.csv')
```

```
print('Dataset is: ', d)
```

```
print('Top 5 rows is: ', d.head())
```

INPUT/OUTPUT:

Dataset is:

	Transaction	Item
0	1	Bread
1	1	Butter
2	1	Jelly
3	2	Milk
4	2	Bread
5	2	Bun
6	2	Pig

Top 5 rows is:

	Transaction	Item
0	1	Bread
1	1	Butter
2	1	Jelly
3	2	Milk
4	2	Bread

6.2 Find the rules with min-confidence: 0.2,
 min-support = 0.0045, min-lift = 3, min-length = 2
 from mlxtend.frequent_patterns import apriori,
 association_rules
 import pandas as pd
 d = pd.read_csv('transactions.csv')
 dt = d.groupby(['Transaction', 'item'])
 .item.count().unstack().reset_index().fillna(0)
 .set_index('Transaction')
 dt = dt.applymap(lambda x: 1 if x > 0 else 0)
 ffs = apriori(dt, min-support = 0.0045, use_colnames =
 True)
 r = association_rules(ffs, metric = 'lift',
 min-threshold = 3)
 fr = r[(r['confidence'] > 0.2) & (r['lift'] > 3) &
 (r['antecedents'].apply(lambda x: len(x) >= 2))]
 print(fr)

INPUT/OUTPUT:

	antecedents	consequents	antecedent supp	lift	leverage	conviction
0	(coffee, croissant)	(Juice)	0.06	3.33	0.045	2.8
1	(coffee, croissant)	(Muffin, Tea)	0.06	3.33	0.045	2.8
2	(Muffin, coffee)	(Tea, Juice)	0.06	4.00	0.045	3.0
3	(Tea, Juice)	(Muffin, coffee)	0.06	4.00	0.045	3.0
4	(Muffin, coffee)	(Pastry)	0.06	5.00	0.045	4.0
5	(coffee, croissant, Tea)	(Pastry)	0.06	5.00	0.045	4.0
6	(coffee, Pastry, Hot Chocolate)	(Muffin)	0.06	5.00	0.045	4.0
7	(coffee, Pastry, Muffin)	(Tea, Juice)	0.06	5.00	0.045	4.0
8	(coffee, Pastry, Muffin, Hot)	(Tea)	0.06	6.00	0.045	5.0