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Experiment 10

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Branch: CSE Section/Group:701-B

Semester: 5

Subject Name: Machine learning lab Subject Code: 20CSP-317

1. Aim:

Implement Association Rule Mining.

2. Result and output:

→ Importing mlxtend, apriori and association_rules.



→ Creating a list for the same and apply split function.

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data = list(dft products ].apply(lambda x:x.split( , ) ))

Out[14]: [['MLK', 'BISCUIT'], ("BREAD', 'MILK', 'BISCUIT'], ("BREAD', 'TEA', 'BISCUIT'], ("BREAD', 'TEA', 'BISCUIT'], ("MAGGI', 'BREAD', 'MILK'], ("MAGGI', 'TEA', 'BISCUIT'], ("MAGGI', 'TEA', 'BISCUIT'], ("MAGGI', 'BREAD', 'TEA', 'BISCUIT'], ("MAGGI', 'BREAD', 'TEA', 'BISCUIT'], ("ORNFLAKES'], ("OFFEE', 'COCK', 'BISCUIT', 'CORNFLAKES'], ("OFFEE', 'SUGER', 'BOURNVITA'], ("BREAD', 'SUGER', 'BOURNVITA'], ("BREAD', 'COFFEE', 'SUGER', 'BOURNVITA'], ("BREAD', 'COFFEE', 'SUGER', 'BOURNVITA'), ("BREAD', 'COFFEE', 'SUGER', 'BOURNVITA'), ("BREAD', 'COFFEE', 'SUGER', 'BOURNVITA'), ("BREAD', 'COFFEE', 'SUGER'), ("BREAD', 'COFFEE', 'CORNFLAKES')]
```

→ Transform the list, with one-hot encoding.

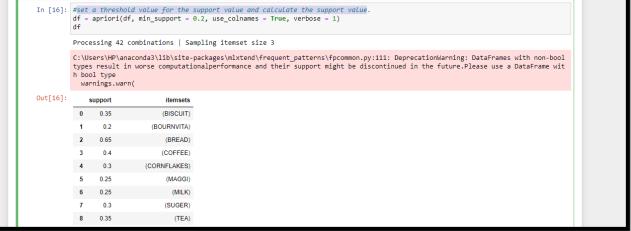
In [15]:	from a = a_da df =	#Let's transform the list, with one-hot encoding from mlxtend.preprocessing import TransactionEncoder a = TransactionEncoder() a_data = a.fit(data).transform(data) df = pd.DataFrame(a_data,columns=a.columns_) df = df.replace(False,0) df										
Out[15]:		BISCUIT	BOURNVITA	BREAD	соск	COFFEE	CORNFLAKES	JAM	MAGGI	MILK	SUGER	TEA
	0	True	0	True	0	0	0	0	0	True	0	0
	1	True	0	True	0	0	True	0	0	True	0	0
	2	0	True	True	0	0	0	0	0	0	0	True
	3	0	0	True	0	0	0	True	True	True	0	0
	4	True	0	0	0	0	0	0	True	0	0	True
	5	0	True	True	0	0	0	0	0	0	0	True
	6	0	0	0	0	0	True	0	True	0	0	True
	7	True	0	True	0	0	0	0	True	0	0	True
	8	0	0	True	0	0	0	True	True	0	0	True
	9	0	0	True	0	0	0	0	0	True	0	0
	10	True	0	0	True	True	True	0	0	0	0	0
	11	True	0	0	True	True	True	0	0	0	0	0

→ Set a threshold value for the support value and calculate the support value

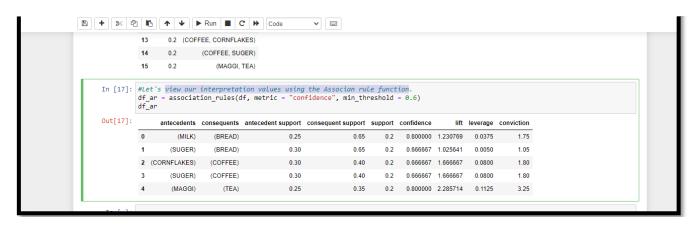


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→ View your interpretation values using the Associan rule function.



LEARNING OUTCOMES-:

- 1. Import mlxtend and from it import association rules.
- 2. Provide it with a dataset example-: GroceryDataset.csv.
- 3. Now list the dataset using split function.
- 4. Instantiate a transaction encoder and identify the unique items in transactions.
- 5. Set a threshold value for the support value and calculate the support value.
- 6. View our interpretation values using the Association rule function.