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Experiment 9

Aim: Implementation of Association Rule Mining algorithm (Apriori)

Dataset:

	A	B	C	D	E	F
1	A	B	C	D	E	F
2	A	B		D	E	F
3		B	C		E	
4	A		C	D	E	
5	A	B	C	D	E	F
6		B		D		F
7	A	B	C		E	F
8	A	B		D		F
9	A	B	C		E	F
10	A		C	D	E	F

Code:

```
import numpy as np
import pandas as pd
from apyori import apriori

store_data = pd.read_csv('exp_9.csv', header=None)
print("Dataset :-\n", store_data)
print("\nShape of Dataset :", store_data.shape)
records = []
for i in range(0, 10):
  records.append([str(store_data.values[i,j]) for j in range(0, 6)])
association_rules = apriori(records, min_support=0.5, min_confidence=0.9, min_lift=1.3, min_length=2)
association_results = list(association_rules)
print("\nNumber of Association Results :", len(association_results))
print("\n" + str(association_results))
```

Output:

```
Dataset :-
     0    1    2    3    4    5
0    A    B    C    D    E    F
1    A    B  NaN    D    E    F
2  NaN    B    C  NaN    E  NaN
3    A  NaN    C    D    E  NaN
4    A    B    C    D    E    F
5  NaN    B  NaN    D  NaN    F
6    A    B    C  NaN    E    F
7    A    B  NaN    D  NaN    F
8    A    B    C  NaN    E    F
9    A  NaN    C    D    E    F

Shape of Dataset : (10, 6)

Number of Association Results : 1

[RelationRecord(items=frozenset({'A', 'C', 'E', 'F'}), support=0.5, ordered_statistics=[OrderedStatisti
c(items_base=frozenset({'C', 'F'}), items_add=frozenset({'A', 'E'}), confidence=1.0, lift=1.42857142857
14286)])]
```