33316_Ass6

October 27, 2022

```python
[20]: import numpy as np
      import pandas as pd
      from apyori import apriori
```

```python
[21]: df=pd.read_csv('Day1.csv')
```

```python
[22]: df
```

```
[22]:      Wine   Chips  Bread  Butter  Milk  Apple
      0    Wine    NaN   Bread  Butter  Milk    NaN
      1     NaN    NaN   Bread  Butter  Milk    NaN
      2     NaN  Chips     NaN     NaN   NaN  Apple
      3    Wine  Chips   Bread  Butter  Milk  Apple
      4    Wine  Chips     NaN     NaN  Milk    NaN
      5    Wine  Chips   Bread  Butter   NaN  Apple
      6    Wine  Chips     NaN     NaN  Milk    NaN
      7    Wine    NaN   Bread     NaN   NaN  Apple
      8    Wine    NaN   Bread  Butter  Milk    NaN
      9     NaN  Chips   Bread  Butter   NaN  Apple
      10   Wine    NaN     NaN  Butter  Milk  Apple
      11   Wine  Chips   Bread  Butter  Milk    NaN
      12   Wine    NaN   Bread     NaN  Milk  Apple
      13   Wine    NaN   Bread  Butter  Milk  Apple
      14   Wine  Chips   Bread  Butter  Milk  Apple
      15    NaN  Chips   Bread  Butter  Milk  Apple
      16    NaN  Chips     NaN  Butter  Milk  Apple
      17   Wine  Chips   Bread  Butter  Milk  Apple
      18   Wine    NaN   Bread  Butter  Milk  Apple
      19   Wine  Chips   Bread     NaN  Milk  Apple
      20    NaN  Chips     NaN     NaN   NaN    NaN
```

```python
[23]: df.isnull().sum()
```

```
[23]: Wine      6
      Chips     8
      Bread     6
      Butter    7
```

1

```
Milk      5
Apple     7
dtype: int64
```

[24]:
```python
transacts=[]
for i in range (0, 15):
    transacts.append([str(df.values[i,j]) for j in range(0,6)])
```

[25]:
```python
association_rules=apriori(transacts, min_support=0.75, min_confidence=0.75,
↪min_left=1, min_length=2)
association_results=list(association_rules)
```

[26]:
```python
print(len(association_results))
```

```
2
```

[27]:
```python
print(association_results)
```

```
[RelationRecord(items=frozenset({'Wine'}), support=0.8,
ordered_statistics=[OrderedStatistic(items_base=frozenset(),
items_add=frozenset({'Wine'}), confidence=0.8, lift=1.0)]),
RelationRecord(items=frozenset({'nan'}), support=0.8666666666666667,
ordered_statistics=[OrderedStatistic(items_base=frozenset(),
items_add=frozenset({'nan'}), confidence=0.8666666666666667, lift=1.0)])]
```