Creado por:

Isabel Maniega

Apriori Algoritm

In [1]:
```
# pip install apyori
```

In [2]:
```
import numpy as np
import pandas as pd
from apyori import apriori
```

In [4]:
```
store_data = pd.read_csv("compras.csv", delimiter=";")
store_data
```

Out[4]:

	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	NaN
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

In [5]:
```
store_data.shape
```

Out[5]:
```
(21, 6)
```

In [6]:
```
records = []
for i in range(0, 21):
    records.append([str(store_data.values[i, j]) for j in range(0, 6)])
records
```

Out[6]:
```
[['Wine', 'nan', 'Bread', 'Butter', 'Milk', 'nan'],
 ['nan', 'nan', 'Bread', 'Butter', 'Milk', 'nan'],
 ['nan', 'Chips', 'nan', 'nan', 'nan', 'Apple'],
 ['Wine', 'Chips', 'Bread', 'Butter', 'Milk', 'Apple'],
 ['Wine', 'Chips', 'nan', 'nan', 'Milk', 'nan'],
 ['Wine', 'Chips', 'Bread', 'Butter', 'nan', 'nan'],
 ['Wine', 'Chips', 'nan', 'nan', 'Milk', 'nan'],
 ['Wine', 'nan', 'Bread', 'nan', 'nan', 'Apple'],
 ['Wine', 'nan', 'nan', 'Butter', 'Milk', 'Apple'],
 ['Wine', 'Chips', 'Bread', 'Butter', 'Milk', 'nan'],
 ['Wine', 'nan', 'Bread', 'nan', 'Milk', 'Apple'],
 ['Wine', 'nan', 'Bread', 'Butter', 'Milk', 'Apple'],
 ['Wine', 'Chips', 'Bread', 'Butter', 'Milk', 'Apple'],
 ['nan', 'Chips', 'Bread', 'Butter', 'Milk', 'Apple'],
 ['nan', 'Chips', 'nan', 'Butter', 'Milk', 'Apple'],
 ['Wine', 'Chips', 'Bread', 'Butter', 'Milk', 'Apple'],
 ['Wine', 'nan', 'Bread', 'Butter', 'Milk', 'Apple'],
 ['Wine', 'Chips', 'Bread', 'nan', 'Milk', 'Apple'],
 ['nan', 'Chips', 'nan', 'nan', 'nan', 'nan']]
```

In [7]:
```
asociation_rules = apriori(records, min_support=0.5, min_confidence=0.7, min_lift=1.2, min_length=2)
asociation_result = list(asociation_rules)
```

In [8]:
```
len(asociation_result)
```

Out[8]:
```
1
```

In [9]:
```
asociation_result
```

Out[9]:
```
[RelationRecord(items=frozenset({'Bread', 'Butter'}), support=0.5714285714285714, ordered_statistics=[OrderedSt
atistic(items_base=frozenset({'Bread'}), items_add=frozenset({'Butter'}), confidence=0.7999999999999999, lift=
1.2), OrderedStatistic(items_base=frozenset({'Butter'}), items_add=frozenset({'Bread'}), confidence=0.857142857
1428571, lift=1.2)])]
```

Con un 85.71 compran pan y mantequilla

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