In [1]:

```
import csv
import pandas as pd
from mlxtend.preprocessing import TransactionEncoder
from mlxtend.frequent_patterns import apriori
```

In [2]:

```
dataset = []
```

In [3]:

```
with open(’CraftZoneStoreDataSet.csv’, ’r’) as csv_file:
    csv_reader = csv.reader(csv_file)
    next(csv_reader)
    for row in csv_reader:
        dataset.append(row)
```

In [4]:

```
data = [[item for item in sublist if item != ’’] for sublist in dataset]
```

In [5]:

```
data[:5]
```

Out[5]:

```
[[’Keychain’, ’Bag’, ’iPhone Case’],
 [’Bag’, ’Ring’, ’Key Chain’],
 [’Painting’, ’Canvas’, ’iPhone Case’],
 [’Bear’, ’Fluid Art’, ’Key Chain’],
 [’Bracelet’, ’Ring’, ’iPhone Case’]]
```

In [6]:

```
te = TransactionEncoder()
te_data = te.fit(data).transform(data)
df = pd.DataFrame(te_data,columns=te.columns_)
df
```

Out[6]:

	Bag	Bear	Bouquet	Bracelet	Candle	Canvas	Contactlens case	Cup	Cup Mat	Decoden Cream	...	Necklac
0	True	False	False	False	False	False	False	False	False	False	...	Fal
1	True	False	False	False	False	False	False	False	False	False	...	Fal
2	False	False	False	False	False	True	False	False	False	False	...	Fal
3	False	True	False	False	False	False	False	False	False	False	...	Fal
4	False	False	False	True	False	False	False	False	False	False	...	Fal
...	...	...	...	...	...	...	...	...	...	...	...	
102	False	False	False	False	False	False	False	False	False	False	...	Fal
103	False	False	False	False	False	False	False	False	False	False	...	Fal
104	False	False	False	False	False	False	False	False	False	False	...	Fal
105	False	False	False	False	False	False	False	False	False	False	...	Fal
106	False	False	False	False	False	False	False	False	False	False	...	Fal

107 rows × 27 columns

In [7]:

```
df1 = apriori(df,min_support=0.05,use_colnames=True)
df1
```

Out[7]:

	support	itemsets
0	0.056075	(Cup)
1	0.084112	(Cup Mat)
2	0.056075	(Fluid Art)
3	0.186916	(Key Chain)
4	0.074766	(Phone Chain)
5	0.093458	(Phone Stand)
6	0.056075	(Ring)
7	0.224299	(iPhone Case)
8	0.056075	(Phone Chain, Phone Stand)
9	0.056075	(iPhone Case, Phone Chain)
10	0.065421	(iPhone Case, Phone Stand)
11	0.056075	(iPhone Case, Phone Stand, Phone Chain)

In [8]:

```
df1.sort_values(by=”support”,ascending=False)
```

Out[8]:

	support	itemsets
7	0.224299	(iPhone Case)
3	0.186916	(Key Chain)
5	0.093458	(Phone Stand)
1	0.084112	(Cup Mat)
4	0.074766	(Phone Chain)
10	0.065421	(iPhone Case, Phone Stand)
0	0.056075	(Cup)
2	0.056075	(Fluid Art)
6	0.056075	(Ring)
8	0.056075	(Phone Chain, Phone Stand)
9	0.056075	(iPhone Case, Phone Chain)
11	0.056075	(iPhone Case, Phone Stand, Phone Chain)

In [9]:

```
df1[’length’] = df1[’itemsets’].apply(lambda x:len(x))
df1
```

Out[9]:

	support	itemsets	length
0	0.056075	(Cup)	1
1	0.084112	(Cup Mat)	1

	support	itemsets	length
2	0.056075	(Fluid Art)	1
3	0.186916	(Key Chain)	1
4	0.074766	(Phone Chain)	1
5	0.093458	(Phone Stand)	1
6	0.056075	(Ring)	1
7	0.224299	(iPhone Case)	1
8	0.056075	(Phone Chain, Phone Stand)	2
9	0.056075	(iPhone Case, Phone Chain)	2
10	0.065421	(iPhone Case, Phone Stand)	2
11	0.056075	(iPhone Case, Phone Stand, Phone Chain)	3

In [10]:

```
df1[(df1['length']==2) & (df1['support']>=0.05)]
```

Out[10]:

	support	itemsets	length
8	0.056075	(Phone Chain, Phone Stand)	2
9	0.056075	(iPhone Case, Phone Chain)	2
10	0.065421	(iPhone Case, Phone Stand)	2

In [ ]:

```

```