In [ ]:
```
import pandas as pd
from mlxtend.preprocessing import TransactionEncoder
from mlxtend.frequent_patterns import apriori, association_rules
```

In [ ]:
```
dataset = [['Milk', 'Onion', 'Nutmeg', 'Kidney Beans', 'Eggs', 'Yogurt'],
           ['Dill', 'Onion', 'Nutmeg', 'Kidney Beans', 'Eggs', 'Yogurt'],
           ['Milk', 'Apple', 'Kidney Beans', 'Eggs'],
           ['Milk', 'Unicorn', 'Corn', 'Kidney Beans', 'Yogurt'],
           ['Corn', 'Onion', 'Onion', 'Kidney Beans', 'Ice cream', 'Eggs']]
```

In [ ]:
```
te = TransactionEncoder()
te_ary = te.fit(dataset).transform(dataset)
df = pd.DataFrame(te_ary, columns=te.columns_)
df
```

Out[ ]:

	Apple	Corn	Dill	Eggs	Ice cream	Kidney Beans	Milk	Nutmeg	Onion	Unicorn	Yogurt
0	False	False	False	True	False	True	True	True	True	False	True
1	False	False	True	True	False	True	False	True	True	False	True
2	True	False	False	True	False	True	True	False	False	False	False
3	False	True	False	False	False	True	True	False	False	True	True
4	False	True	False	True	True	True	False	False	True	False	False

A min support 50% and confidence 75%

In [ ]:
```
frq_items = apriori(df, min_support=0.5, use_colnames=True)
rules = association_rules(frq_items, min_threshold = .75, metric="confidence")
rules
```

Out[ ]:

	antecedents	consequents	antecedent support	consequent support	support	confidence	lift	leverage	conviction	zhangs_metric
0	(Eggs)	(Kidney Beans)	0.8	1.0	0.8	1.0	1.00	0.00	inf	0.0
1	(Kidney Beans)	(Eggs)	1.0	0.8	0.8	0.8	1.00	0.00	1.0	0.0
2	(Onion)	(Eggs)	0.6	0.8	0.6	1.0	1.25	0.12	inf	0.5
3	(Milk)	(Kidney Beans)	0.6	1.0	0.6	1.0	1.00	0.00	inf	0.0
4	(Onion)	(Kidney Beans)	0.6	1.0	0.6	1.0	1.00	0.00	inf	0.0
5	(Yogurt)	(Kidney Beans)	0.6	1.0	0.6	1.0	1.00	0.00	inf	0.0
6	(Eggs, Onion)	(Kidney Beans)	0.6	1.0	0.6	1.0	1.00	0.00	inf	0.0
7	(Onion, Kidney Beans)	(Eggs)	0.6	0.8	0.6	1.0	1.25	0.12	inf	0.5
8	(Onion)	(Eggs, Kidney Beans)	0.6	0.8	0.6	1.0	1.25	0.12	inf	0.5

A min support 60% and confidence 60%

In [ ]:
```
frq_items = apriori(df, min_support=0.6, use_colnames=True)
rules = association_rules(frq_items, min_threshold = .6, metric="confidence")
rules
```

Out[ ]:

	antecedents	consequents	antecedent support	consequent support	support	confidence	lift	leverage	conviction	zhangs_metric
0	(Eggs)	(Kidney Beans)	0.8	1.0	0.8	1.00	1.00	0.00	inf	0.0
1	(Kidney Beans)	(Eggs)	1.0	0.8	0.8	0.80	1.00	0.00	1.0	0.0
2	(Eggs)	(Onion)	0.8	0.6	0.6	0.75	1.25	0.12	1.6	1.0
3	(Onion)	(Eggs)	0.6	0.8	0.6	1.00	1.25	0.12	inf	0.5
4	(Kidney Beans)	(Milk)	1.0	0.6	0.6	0.60	1.00	0.00	1.0	0.0
5	(Milk)	(Kidney Beans)	0.6	1.0	0.6	1.00	1.00	0.00	inf	0.0
6	(Onion)	(Kidney Beans)	0.6	1.0	0.6	1.00	1.00	0.00	inf	0.0
7	(Kidney Beans)	(Onion)	1.0	0.6	0.6	0.60	1.00	0.00	1.0	0.0
8	(Yogurt)	(Kidney Beans)	0.6	1.0	0.6	1.00	1.00	0.00	inf	0.0
9	(Kidney Beans)	(Yogurt)	1.0	0.6	0.6	0.60	1.00	0.00	1.0	0.0
10	(Eggs, Onion)	(Kidney Beans)	0.6	1.0	0.6	1.00	1.00	0.00	inf	0.0
11	(Eggs, Kidney Beans)	(Onion)	0.8	0.6	0.6	0.75	1.25	0.12	1.6	1.0
12	(Onion, Kidney Beans)	(Eggs)	0.6	0.8	0.6	1.00	1.25	0.12	inf	0.5
13	(Eggs)	(Onion, Kidney Beans)	0.8	0.6	0.6	0.75	1.25	0.12	1.6	1.0
14	(Onion)	(Eggs, Kidney Beans)	0.6	0.8	0.6	1.00	1.25	0.12	inf	0.5
15	(Kidney Beans)	(Eggs, Onion)	1.0	0.6	0.6	0.60	1.00	0.00	1.0	0.0