

```
dataset = [['Skirt', 'Sneakers', 'Scarf', 'Pants', 'Hat'],
           ['Sunglasses', 'Skirt', 'Sneakers', 'Pants', 'Hat'],
           ['Dress', 'Sandals', 'Scarf', 'Pants', 'Heels'],
           ['Dress', 'Necklace', 'Earrings', 'Scarf', 'Hat', 'Heels', 'Hat'],
           ['Earrings', 'Skirt', 'Skirt', 'Scarf', 'Shirt', 'Pants']]
dataset

[['Skirt', 'Sneakers', 'Scarf', 'Pants', 'Hat'],
 ['Sunglasses', 'Skirt', 'Sneakers', 'Pants', 'Hat'],
 ['Dress', 'Sandals', 'Scarf', 'Pants', 'Heels'],
 ['Dress', 'Necklace', 'Earrings', 'Scarf', 'Hat', 'Heels', 'Hat'],
 ['Earrings', 'Skirt', 'Skirt', 'Scarf', 'Shirt', 'Pants']]
```

```
import mlxtend
import pandas as pd
from mlxtend.preprocessing import TransactionEncoder
te=TransactionEncoder()
te_ary=te.fit(dataset).transform(dataset)
df=pd.DataFrame(te_ary, columns=te.columns_)
df
```

	Dress	Earrings	Hat	Heels	Necklace	Pants	Sandals	Scarf	Shirt	Skirt	Snea
0	False	False	True	False	False	True	False	True	False	True	
1	False	False	True	False	False	True	False	False	False	True	
2	True	False	False	True	False	True	True	True	False	False	
3	True	True	True	True	True	False	False	True	False	False	
4	False	True	False	False	False	True	False	True	True	True	

```
from mlxtend.frequent_patterns import apriori
apriori(df, min_support=0.6)
```

	support	itemsets
0	0.6	(2)
1	0.8	(5)
2	0.8	(7)
3	0.6	(9)
4	0.6	(5, 7)
5	0.6	(9, 5)

```
frequent_itemsets=apriori(df, min_support=0.6, use_colnames=True)
frequent_itemsets
```

	support	itemsets
0	0.6	(Hat)
1	0.8	(Pants)
2	0.8	(Scarf)
3	0.6	(Skirt)
4	0.6	(Pants, Scarf)

```
from mlxtend.frequent_patterns import association_rules
data=association_rules(frequent_itemsets,metric="confidence",min_threshold=0.7)
data
```

	antecedents	consequents	antecedent support	consequent support	support	confidence	lift	level
0	(Pants)	(Scarf)	0.8	0.8	0.6	0.75	0.9375	
1	(Scarf)	(Pants)	0.8	0.8	0.6	0.75	0.9375	
2	(Skirt)	(Pants)	0.6	0.8	0.6	1.00	1.2500	
3	(Pants)	(Skirt)	0.8	0.6	0.6	0.75	1.2500	

```
from mlxtend.frequent_patterns import association_rules
association_rules(frequent_itemsets,metric="lift",min_threshold=1.25)
```

	antecedents	consequents	antecedent support	consequent support	support	confidence	lift	level
0	(Skirt)	(Pants)	0.6	0.8	0.6	1.0	1.25	

```
import seaborn as sns
sns.distplot(df['Dress'],bins=5,hist=True,kde=True,color='red')
```

```
import seaborn as sns  
sns.distplot(df['Sunglasses'],bins=5,hist=True,kde=True,color='yellow')
```

```
/usr/local/lib/python3.7/dist-packages/seaborn/distributions.py:2557: FutureWarning:  
  warnings.warn(msg, FutureWarning)  
<matplotlib.axes._subplots.AxesSubplot at 0x7f1e66bb4b50>
```

