

Practical 2
Set A
Q.2

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

## Custom Data
transactions = [["BMW", "Ferrari"],
                ["Mercedes", "RollsRoyace", "Mercedes"],
                ["Audi", "RollsRoyace", "BMW", "Ferrari"],
                ["Ferrari", "Suzuki", "BMW", "RollsRoyace", "Mercedes"],
                ["MG", "Suzuki", "Honda", "RollsRoyace"]]

## Read the data, encode the data
te=TransactionEncoder()
te_array=te.fit(transactions).transform(transactions)
df=pd.DataFrame(te_array, columns=te.columns_)
print(df);

## Find the frequent itemsets
freq_items = apriori(df, min_support = 0.2, use_colnames = True)
print(freq_items);

## Generate the association rules
rules = association_rules(freq_items, metric='support', min_threshold=0.05)
rules = rules.sort_values(['support', 'confidence'], ascending =[False,False])

print(rules)
```