CSE - P

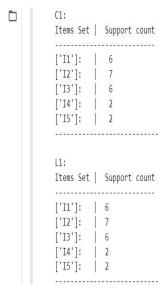
ANKUSH KUMAR AP21110011026

```
data = [
       ['T100', ['I1', 'I2', 'I5']],
       ['T200',['I2','I4']],
       ['T300',['I2','I3']],
       ['T400', ['I1', 'I2', 'I4']],
       ['T500',['I1','I3']],
       ['T600', ['I2', 'I3']],
       ['T700', ['I1', 'I3']],
       ['T800', ['I1', 'I2', 'I3', 'I5']],
       ['T900', ['I1', 'I2', 'I3']]
init = [] for i in data:
for q in i[1]:
if(q not in init):
init.append(q) init =
sorted(init)
sp = 0.4 s = int(sp*len(init))
s from collections import
Counter
c = Counter() for i in init:
for d in data:
              if(i in
d[1]):
                c[i] +=1
print("C1:") print("Items Set |
Support count") print("-----
----") for i in c:
   print("----")
print() l = Counter() for i in c:
if(c[i] >= s):
       l[frozenset([i])]+=c[i] print("L1:")
print("Items Set | Support count")
print("----") for
i in 1:
```

```
print("----")
print() pl = l pos = 1 for count in range
(2,1000):
            temp = list(1)
  nc = set()
for i in range(0,len(temp)):
for j in range(i+1,len(temp)):
t = temp[i].union(temp[j])
if(len(t) == count):
           nc.add(temp[i].union(temp[j]))
nc = list(nc) c = Counter() for i in
        c[i] = 0 for q in data:
nc:
        temp = set(q[1])
if(i.issubset(temp)):
           c[i]+=1
| Support count") print("-----
----') for i in c:
     print("----")
for i in c:
if(c[i] >= s):
                        l[i]+=c[i]
print("L"+str(count)+":") for i in 1:
    print(str(list(i))+": "+str(l[i]))
print() if (len(l) == 0):
    break
pl = 1 pos
= count
print("======="")
print("Result: ")
print("========"")
print("L"+str(pos)+":") for i in pl:
  print(str(list(i))+": "+str(pl[i]))
print()
from itertools import combinations for 1 in pl:
[frozenset(q) for q in combinations(l,len(l)-1)]
mmax = 0 for a in c:
```

```
b = 1-a
ab = 1 sab = 0 sb = 0
for q in data:
        temp = set(q[1])
if(a.issubset(temp)):
            sa+=1
if(b.issubset(temp)):
if(ab.issubset(temp)):
           sab+=1 temp = sab/sa*100 if (temp > mmax):
"+str(sab/sa*100)+"%"" print(str(list(b))+" -> "+<math>str(list(a))+" =
"+str(sab/sb*100)+"%") curr = 1 print("choosing:", end=' ')
          b = 1-a   ab = 1   sab = 0   sa = 0
for a in c:
sb = 0
        for q in data:
        temp = set(q[1])
if(a.issubset(temp)):
if (b.issubset(temp)):
if (ab.issubset(temp)):
temp = sab/sa*100
if(temp == mmax):
        print(curr, end = ' ')
mmax):
        print(curr, end = ' ')
curr += 1     print()     print()
```

Output:



```
C≥ C2:
                              Items Set
                                                                      | Support count
['I3', 'I2']:
['I2', 'I1']:
['I2', 'I4']:
['I5', 'I3']:
['I5', 'I1']:
['I1', 'I4']:
['I3', 'I1']:
['I3', 'I4']:
['I5', 'I4']:
['I5', 'I4']:
                                                                      | 4
                                                                      | 2
                                                                      | 1
                                                                      1
                                                                      10
                                                                    | 2
                              L2:
                              ['I3', 'I2']: 4
                             ['13', '12']: 4

['12', '11']: 4

['12', '14']: 2

['15', '11']: 2

['13', '11']: 4

['15', '12']: 2
<>
```

△ Apriori.ipynb ☆