

## Reading File

```
In [431... import csv
import time
import pandas as pd
import itertools
```

```
In [432... def load_data(filename):
    full_transaction_list= []
    with open(filename, encoding = 'utf-8-sig') as data:
        transaction_data = csv.reader(data, delimiter = ',')
        for row in transaction_data:
            filtered_rows = [value for value in row if value != '']
            full_transaction_list.append(filtered_rows)
    return full_transaction_list
```

```
In [433... #Asking the user to input the file
new_list = load_data(input('please enter file name\n'))

please enter file name
Transactions_3.csv
```

## Asking user for min support and confidence

```
In [434... try:
    user_input_minsupport =int(input('Please enter the minimum support value
    user_input_minConfidence = int(input('\nPlease enter the min confidence
except:
    if user_input_minsupport == int(user_input_minsupport) or user_input_min
        print('please enter a numerical value')
```

Please enter the minimum support value in percentage ex: 25 is 25%:

40

Please enter the min confidence value n percentage ex: 50 is 50%:

80

## Transaction 3

### Apriori Algorithm

```
In [435... start_time = time.time()

#function to find all the unique values with their counts
def Uniquevalues(Transactions):
    unique_items = {}
    for rows in Transactions:
        for items in rows:
            if items not in unique_items:
                unique_items[items] = 1
            else:
                unique_items[items] = unique_items[items] + 1
    uniqueitemlist = []
    for value in unique_items:
        Valuelist = []
        Valuelist.append(value)
        uniqueitemlist.append(Valuelist)
        uniqueitemlist.append(unique_items[value])
    return uniqueitemlist
```

```
In [436... One_UniqueItems = Uniquevalues(new_list)
print('These are the unique items for Transaction 1:\n\n', One_UniqueItems)

These are the unique items for Transaction 1:
```

```
[[ 'DecorativePillows'], 10, [ 'Quilts'], 8, [ 'EmbroideredBedspread'], 6, [ 'Shams'], 11, [ 'KidsBedding'], 12, [ 'BeddingCollections'], 7, [ 'BedSkirts'], 11, [ 'Bedspreads'], 7, [ 'Sheets'], 10]
```

```
In [437... #function used to remove the items that do not meet the threshold
def remove_lessthansupportone(Candidates, transactions):
    Firstcandidate_list= []
    for i in range(len(Candidates)):
        if i%2 != 0:
            if (Candidates[i] / len(new_list))*100 >= user_input_minsupport:
                Firstcandidate_list.append(Candidates[i-1])
                Firstcandidate_list.append(Candidates[i])
    candidatesforcombo = []
    for i in range(len(Firstcandidate_list)):
        if i%2 == 0:
            candidatesforcombo.append(Firstcandidate_list[i])
    return candidatesforcombo
```

```
In [438... removed_first = remove_lessthansupportone(One_UniqueItems, new_list)
print('\nThese are the candidates after the first pass\n\n',removed_first )

These are the candidates after the first pass
```

```
[[ 'DecorativePillows'], [ 'Quilts'], [ 'Shams'], [ 'KidsBedding'], [ 'BedSkirts'], [ 'Sheets']]
```

```
In [439... #function used to output all possible combinations (k itemsets)
def Allpossiblecombinations(candidatesforcombo):
    if not candidatesforcombo:
        return [[]]
    first= candidatesforcombo[0]
    Allothers = candidatesforcombo[1:]
    Withoutfirst = Allpossiblecombinations(Allothers)
    Withfirst = [combo + [first] for combo in Withoutfirst]
    Combinedlist=Withoutfirst + Withfirst
    return Combinedlist
```

```
In [440... All_combos = Allpossiblecombinations(removed_first)
```

```
In [441... #function used to add the number of counts to the list provided before
def allcombosunique(Combination, dataset):
    from collections import Counter
    Count = Counter()
    for row in Combination:
        for s in dataset:
            if all(item in s for item in sum(row, [])):
                Count[tuple(map(tuple, row))] += 1
    listcount = [[list(subset), count] for subset, count in Count.items()]
    return(listcount)
```

```
In [442... All_uniquecombos = allcombosunique(All_combos, new_list)
print('\nAll unique possible combinations\n',All_uniquecombos )
```

All unique possible combinations

```
[[[], 20], [[('Sheets',)], 10], [[('BedSkirts',)], 11], [[('Sheets',), ('BedSkirts',)], 9], [[('KidsBedding',)], 12], [[('Sheets',), ('KidsBedding',)], 10], [[('BedSkirts',), ('KidsBedding',)], 10], [[('Sheets',), ('BedSkirts',), ('KidsBedding',)], 9], [[('Shams',)], 11], [[('Sheets',), ('Shams',)], 7], [[('BedSkirts',), ('Shams',)], 9], [[('Sheets',), ('BedSkirts',), ('Shams',)], 7], [[('KidsBedding',), ('Shams',)], 9], [[('Sheets',), ('KidsBedding',), ('Shams',)], 7], [[('BedSkirts',), ('KidsBedding',), ('Shams',)], 8], [[('Sheets',), ('BedSkirts',), ('KidsBedding',), ('Shams',)], 7], [[('Quilts',)], 8], [[('Sheets',), ('Quilts',)], 1], [[('KidsBedding',), ('Quilts',)], 2], [[('Sheets',), ('KidsBedding',), ('Quilts',)], 1], [[('Shams',), ('Quilts',)], 1], [[('KidsBedding',), ('Shams',), ('Quilts',)], 1], [[('DecorativePillows',)], 10], [[('Sheets',), ('DecorativePillows',)], 2], [[('BedSkirts',), ('DecorativePillows',)], 4], [[('Sheets',), ('BedSkirts',), ('DecorativePillows',)], 2], [[('KidsBedding',), ('DecorativePillows',)], 4], [[('Sheets',), ('KidsBedding',), ('DecorativePillows',)], 2], [[('BedSkirts',), ('KidsBedding',), ('DecorativePillows',)], 3], [[('Sheets',), ('BedSkirts',), ('KidsBedding',), ('DecorativePillows',)], 2], [[('Shams',), ('DecorativePillows',)], 4], [[('Sheets',), ('Shams',), ('DecorativePillows',)], 1], [[('BedSkirts',), ('Shams',), ('DecorativePillows',)], 3], [[('Sheets',), ('BedSkirts',), ('Shams',), ('DecorativePillows',)], 1], [[('KidsBedding',), ('Shams',), ('DecorativePillows',)], 3], [[('Sheets',), ('KidsBedding',), ('Shams',), ('DecorativePillows',)], 1], [[('BedSkirts',), ('KidsBedding',), ('Shams',), ('DecorativePillows',)], 2], [[('Sheets',), ('BedSkirts',), ('KidsBedding',), ('Shams',), ('DecorativePillows',)], 1], [[('Quilts',), ('DecorativePillows',)], 6], [[('KidsBedding',), ('Quilts',), ('DecorativePillows',)], 1], [[('Shams',), ('Quilts',), ('DecorativePillows',)], 1], [[('KidsBedding',), ('Shams',), ('Quilts',), ('DecorativePillows',)], 1]]
```

```
In [443... #Second function to remove the items that do not meet the threshold
def remove_lessthansupporttwo(Candidates, dataset):
    list1 = []
    for outlist in Candidates:
        if len(outlist) >= 2:
            second_object = outlist[1]
            if (second_object / len(new_list))*100 >= user_input_minsupport:
                list1.append(outlist[0])
                list1.append(outlist[1])
    return list1
```

```
In [444... removed_second = remove_lessthansupporttwo(All_uniquecombos, new_list)
print('\nThese are the candidates after the next pass\n', removed_second )
```

These are the candidates after the next pass

```
[[[], 20], [[('Sheets',)], 10], [[('BedSkirts',)], 11], [[('Sheets',), ('BedSkirts',)], 9], [[('KidsBedding',)], 12], [[('Sheets',), ('KidsBedding',)], 10], [[('BedSkirts',), ('KidsBedding',)], 10], [[('Sheets',), ('BedSkirts',), ('KidsBedding',)], 9], [[('Shams',)], 11], [[('BedSkirts',), ('Shams',)], 9], [[('KidsBedding',), ('Shams',)], 9], [[('BedSkirts',), ('KidsBedding',), ('Shams',)], 8], [[('Quilts',)], 8], [[('DecorativePillows',)], 10]]
```

```
In [445... def Rules(CandidateSet):
    CandidateRule = []
    for candidates in CandidateSet:
        if isinstance(candidates, list):
            if len(candidates) != 0:
                length_candidates = len(candidates) - 1
                while length_candidates > 0:
                    combos = list(itertools.combinations(candidates, length_
                    combolist = []
                    Left = []
                    for Right in combos:
                        Left = set(candidates) - set(Right)
                        combolist.append(list(Left))
                        combolist.append(list(Right))
                        CandidateRule.append(combolist)
                        combolist = []
                    length_candidates = length_candidates - 1

    return CandidateRule
```

```
In [446... Associationrules = Rules(removed_second)
print('\nThese are the association rules\n\n', Associationrules )
```

These are the association rules

```
[[('BedSkirts',)], [('Sheets',)], [('Sheets',)], [('BedSkirts',)], [('KidsBedding',)], [('Sheets',)], [('Sheets',)], [('KidsBedding',)], [('KidsBedding',)], [('BedSkirts',)], [('BedSkirts',)], [('KidsBedding',)], [('KidsBedding',)], [('Sheets',)], [('BedSkirts',)], [('BedSkirts',)], [('Sheets',)], [('KidsBedding',)], [('KidsBedding',)], [('Sheets',)], [('BedSkirts',)], [('KidsBedding',)], [('KidsBedding',)], [('Shams',)], [('BedSkirts',)], [('BedSkirts',)], [('Shams',)], [('Shams',)], [('KidsBedding',)], [('KidsBedding',)], [('Shams',)], [('Shams',)], [('BedSkirts',)], [('KidsBedding',)], [('KidsBedding',)], [('BedSkirts',)], [('Shams',)], [('BedSkirts',)], [('KidsBedding',)], [('KidsBedding',)], [('Shams',)], [('Shams',)], [('KidsBedding',)], [('BedSkirts',)], [('KidsBedding',)], [('KidsBedding',)], [('Shams',)]]
```

```
In [447... def Apriori(Associationrules, new_list, user_input_minConfidence):
    AAlgorithm = []
    for rule in Associationrules:
        first = set(item[0] for item in rule[0])
        Asupport = 0
        ABsupport = 0
        for transaction in new_list:
            if first.issubset(set(transaction)):
                Asupport += 1
            if all(set(item) <= set(transaction) for each in rule for item in i
                ABsupport += 1
        CalculateASupport = (Asupport * 1.0 / len(new_list)) * 100
        CalculateABSupport = (ABsupport * 1.0 / len(new_list)) * 100
        confidence = (CalculateABSupport / CalculateASupport) * 100
        if confidence >= user_input_minConfidence:
            OutputASupport = "A Support is: " + str(round(CalculateASupport,
            OutputABSupport = "\nA&B support is: " + str(CalculateABSupport)
            OutputConfidence = "\nConfidence is: " + str(round(confidence))
            AAlgorithm.append(OutputASupport)
            AAlgorithm.append(OutputABSupport)
            AAlgorithm.append(OutputConfidence)
            AAlgorithm.append(rule)
    return AAlgorithm
```

```
In [448... Apriori = Apriori(Associationrules, new_list, user_input_minConfidence)
print('\nApriori algorithm\n', Apriori )
```

Apriori algorithm

```
[ 'A Support is: 55.0', '\nA&B support is: 45.0', '\nConfidence is: 82',
[(['BedSkirts',)], [(['Sheets',)])], 'A Support is: 50.0', '\nA&B support is:
45.0', '\nConfidence is: 90', [(['Sheets',)], [(['BedSkirts',)])], 'A Support
is: 60.0', '\nA&B support is: 50.0', '\nConfidence is: 83', [(['KidsBeddin
g',)], [(['Sheets',)])], 'A Support is: 50.0', '\nA&B support is: 50.0', '\nCo
nfidence is: 100', [(['Sheets',)], [(['KidsBedding',)])], 'A Support is: 60.
0', '\nA&B support is: 50.0', '\nConfidence is: 83', [(['KidsBedding',)],
[(['BedSkirts',)])], 'A Support is: 55.0', '\nA&B support is: 50.0', '\nConfid
ence is: 91', [(['BedSkirts',)], [(['KidsBedding',)])], 'A Support is: 55.0',
'\nA&B support is: 45.0', '\nConfidence is: 82', [(['BedSkirts',)], [(['Sheet
s',)], [(['KidsBedding',)])], 'A Support is: 50.0', '\nA&B support is: 45.0', '\
nConfidence is: 90', [(['Sheets',)], [(['BedSkirts',)], [(['KidsBedding',)])], 'A
Support is: 50.0', '\nA&B support is: 45.0', '\nConfidence is: 90', [(['Kids
Bedding',)], [(['BedSkirts',)], [(['Sheets',)])], 'A Support is: 50.0', '\nA&B su
pport is: 45.0', '\nConfidence is: 90', [(['KidsBedding',)], [(['Sheets',)])],
[(['BedSkirts',)])], 'A Support is: 45.0', '\nA&B support is: 45.0', '\nConfid
ence is: 100', [(['Sheets',)], [(['BedSkirts',)], [(['KidsBedding',)])], 'A Suppo
rt is: 55.0', '\nA&B support is: 45.0', '\nConfidence is: 82', [(['Sham
s',)], [(['BedSkirts',)])], 'A Support is: 55.0', '\nA&B support is: 45.0', '\
nConfidence is: 82', [(['BedSkirts',)], [(['Shams',)])], 'A Support is: 55.0',
'\nA&B support is: 45.0', '\nConfidence is: 82', [(['Shams',)], [(['KidsBeddi
ng',)])], 'A Support is: 45.0', '\nA&B support is: 40.0', '\nConfidence is: 8
9', [(['KidsBedding',)], [(['Shams',)], [(['BedSkirts',)])], 'A Support is: 45.
0', '\nA&B support is: 40.0', '\nConfidence is: 89', [(['Shams',)], [(['BedSkir
ts',)], [(['KidsBedding',)])], 'A Support is: 50.0', '\nA&B support is: 40.0',
'\nConfidence is: 80', [(['KidsBedding',)], [(['BedSkirts',)], [(['Shams',)])]]
```

In [449...

```
counter = 1
for i in Apriori:
    if counter == 4:
        print("\n"+str(i[0]) + "----->" + str(i[1])+"\n")
        counter = 0
    else:
        print(i, end=' ')
        counter = counter + 1
elapsed_time = time.time() - start_time
print("--- %s seconds ---" % (elapsed_time))
```

```
A Support is: 55.0
A&B support is: 45.0
Confidence is: 82
[('BedSkirts',)]----->[('Sheets',)]
```

```
A Support is: 50.0
A&B support is: 45.0
Confidence is: 90
[('Sheets',)]----->[('BedSkirts',)]
```

```
A Support is: 60.0
A&B support is: 50.0
Confidence is: 83
[('KidsBedding',)]----->[('Sheets',)]
```

```

A Support is: 50.0
A&B support is: 50.0
Confidence is: 100
[('Sheets',)]----->[('KidsBedding',)]

A Support is: 60.0
A&B support is: 50.0
Confidence is: 83
[('KidsBedding',)]----->[('BedSkirts',)]

A Support is: 55.0
A&B support is: 50.0
Confidence is: 91
[('BedSkirts',)]----->[('KidsBedding',)]

A Support is: 55.0
A&B support is: 45.0
Confidence is: 82
[('BedSkirts',)]----->[('Sheets',), ('KidsBedding',)]

A Support is: 50.0
A&B support is: 45.0
Confidence is: 90
[('Sheets',)]----->[('BedSkirts',), ('KidsBedding',)]

A Support is: 50.0
A&B support is: 45.0
Confidence is: 90
[('KidsBedding',), ('BedSkirts',)]----->[('Sheets',)]

A Support is: 50.0
A&B support is: 45.0
Confidence is: 90
[('KidsBedding',), ('Sheets',)]----->[('BedSkirts',)]

A Support is: 45.0
A&B support is: 45.0
Confidence is: 100
[('Sheets',), ('BedSkirts',)]----->[('KidsBedding',)]

A Support is: 55.0
A&B support is: 45.0
Confidence is: 82
[('Shams',)]----->[('BedSkirts',)]

A Support is: 55.0
A&B support is: 45.0
Confidence is: 82
[('BedSkirts',)]----->[('Shams',)]

A Support is: 55.0
A&B support is: 45.0

```



```

Confidence is: 82
[('Shams',)]----->[('KidsBedding',)]

A Support is: 45.0
A&B support is: 40.0
Confidence is: 89
[('KidsBedding',), ('Shams',)]----->[('BedSkirts',)]

A Support is: 45.0
A&B support is: 40.0
Confidence is: 89
[('Shams',), ('BedSkirts',)]----->[('KidsBedding',)]

A Support is: 50.0
A&B support is: 40.0
Confidence is: 80
[('KidsBedding',), ('BedSkirts',)]----->[('Shams',)]

--- 0.07831096649169922 seconds ---

```

## Brute Force

```

In [387... import pandas as pd
import time
from itertools import combinations

```

```

In [388... Transactiondata = input("Enter the file name: ")
minsupport = float(input('Please enter the minimum support value'))

Enter the file name: Transactions_2.csv
Please enter the minimum support value35

```

```

In [389... start_time = time.time()
transaction = pd.read_csv(Transactiondata, header =None)
TransactionforSum = pd.get_dummies(transaction.unstack().dropna()).groupby(1
UniqueItems = TransactionforSum.sum()

```

```

In [390... print('\nThese are all unique one item sets:\n\n', UniqueItems)

```

These are all unique one item sets:

Anti-Virus	14
DeskTop	6
DigitalCamera	9
ExternalHard-Drive	9
FlashDrive	13
LabTop	12
LabTopCase	14
MicrosoftOffice	11
Printer	10
Speakers	11
dtype: int64	

```
In [391... OneItemSets = pd.DataFrame((UniqueItems / len(transaction) * 100), columns =
OneFrequentItems = OneItemSets[OneItemSets['support'] >= minsupport]
print('These are the Frequent One Item sets:\n', OneFrequentItems)
```

These are the Frequent One Item sets:

	support
Anti-Virus	70.0
DigitalCamera	45.0
ExternalHard-Drive	45.0
FlashDrive	65.0
LabTop	60.0
LabTopCase	70.0
MicrosoftOffice	55.0
Printer	50.0
Speakers	55.0

```
In [392... import itertools
items = UniqueItems.index
combos = list(itertools.combinations(items, 2))
combinations = []
for combo in combos:
    combinations.append(combo)
```

```
In [393... combo_counts = {}
for i in range(len(combinations)):
    combo = combinations[i]
    count = 0
    for index, row in transaction.iterrows():
        if set(combo).issubset(row):
            count += 1
    combo_counts[i+1] = count
print('These are all the two possible combinations:\n\n')
for combo_num, count in combo_counts.items():
    print(f"({combinations[combo_num-1]}) , Number of repetitions {count}.")
```

These are all the two possible combinations:

```
(('Anti-Virus', 'DeskTop')) , Number of repetitions 4.
(('Anti-Virus', 'DigitalCamera')) , Number of repetitions 5.
(('Anti-Virus', 'ExternalHard-Drive')) , Number of repetitions 9.
(('Anti-Virus', 'FlashDrive')) , Number of repetitions 10.
(('Anti-Virus', 'LabTop')) , Number of repetitions 10.
(('Anti-Virus', 'LabTopCase')) , Number of repetitions 12.
(('Anti-Virus', 'MicrosoftOffice')) , Number of repetitions 8.
(('Anti-Virus', 'Printer')) , Number of repetitions 7.
(('Anti-Virus', 'Speakers')) , Number of repetitions 9.
(('DeskTop', 'DigitalCamera')) , Number of repetitions 2.
(('DeskTop', 'ExternalHard-Drive')) , Number of repetitions 3.
(('DeskTop', 'FlashDrive')) , Number of repetitions 5.
(('DeskTop', 'LabTop')) , Number of repetitions 2.
(('DeskTop', 'LabTopCase')) , Number of repetitions 3.
(('DeskTop', 'MicrosoftOffice')) , Number of repetitions 5.
(('DeskTop', 'Printer')) , Number of repetitions 5.
(('DeskTop', 'Speakers')) , Number of repetitions 4.
(('DigitalCamera', 'ExternalHard-Drive')) , Number of repetitions 3.
(('DigitalCamera', 'FlashDrive')) , Number of repetitions 4.
(('DigitalCamera', 'LabTop')) , Number of repetitions 5.
(('DigitalCamera', 'LabTopCase')) , Number of repetitions 7.
(('DigitalCamera', 'MicrosoftOffice')) , Number of repetitions 4.
(('DigitalCamera', 'Printer')) , Number of repetitions 3.
(('DigitalCamera', 'Speakers')) , Number of repetitions 7.
(('ExternalHard-Drive', 'FlashDrive')) , Number of repetitions 6.
(('ExternalHard-Drive', 'LabTop')) , Number of repetitions 6.
(('ExternalHard-Drive', 'LabTopCase')) , Number of repetitions 8.
(('ExternalHard-Drive', 'MicrosoftOffice')) , Number of repetitions 5.
(('ExternalHard-Drive', 'Printer')) , Number of repetitions 5.
(('ExternalHard-Drive', 'Speakers')) , Number of repetitions 6.
(('FlashDrive', 'LabTop')) , Number of repetitions 7.
(('FlashDrive', 'LabTopCase')) , Number of repetitions 9.
(('FlashDrive', 'MicrosoftOffice')) , Number of repetitions 11.
(('FlashDrive', 'Printer')) , Number of repetitions 10.
(('FlashDrive', 'Speakers')) , Number of repetitions 6.
(('LabTop', 'LabTopCase')) , Number of repetitions 10.
(('LabTop', 'MicrosoftOffice')) , Number of repetitions 5.
(('LabTop', 'Printer')) , Number of repetitions 5.
(('LabTop', 'Speakers')) , Number of repetitions 5.
(('LabTopCase', 'MicrosoftOffice')) , Number of repetitions 7.
(('LabTopCase', 'Printer')) , Number of repetitions 6.
(('LabTopCase', 'Speakers')) , Number of repetitions 9.
(('MicrosoftOffice', 'Printer')) , Number of repetitions 9.
(('MicrosoftOffice', 'Speakers')) , Number of repetitions 6.
(('Printer', 'Speakers')) , Number of repetitions 5.
```

```
In [394... print('These are the 2 frequent itemsets:\n\n')
for combo_num, count in combo_counts.items():
    if (count / len(transaction) * 100) >= minsupport:
        print(f" ({combinations[combo_num-1]})    number of repetition: {count}")
```

These are the 2 frequent itemsets:

```
(('Anti-Virus', 'ExternalHard-Drive')) number of repetition: 9.
(('Anti-Virus', 'FlashDrive')) number of repetition: 10.
(('Anti-Virus', 'LabTop')) number of repetition: 10.
(('Anti-Virus', 'LabTopCase')) number of repetition: 12.
(('Anti-Virus', 'MicrosoftOffice')) number of repetition: 8.
(('Anti-Virus', 'Printer')) number of repetition: 7.
(('Anti-Virus', 'Speakers')) number of repetition: 9.
(('DigitalCamera', 'LabTopCase')) number of repetition: 7.
(('DigitalCamera', 'Speakers')) number of repetition: 7.
(('ExternalHard-Drive', 'LabTopCase')) number of repetition: 8.
(('FlashDrive', 'LabTop')) number of repetition: 7.
(('FlashDrive', 'LabTopCase')) number of repetition: 9.
(('FlashDrive', 'MicrosoftOffice')) number of repetition: 11.
(('FlashDrive', 'Printer')) number of repetition: 10.
(('LabTop', 'LabTopCase')) number of repetition: 10.
(('LabTopCase', 'MicrosoftOffice')) number of repetition: 7.
(('LabTopCase', 'Speakers')) number of repetition: 9.
(('MicrosoftOffice', 'Printer')) number of repetition: 9.
```

```
In [395... combinations = []
for r in range(3,4):
    combos = list(itertools.combinations(items, r))
    combinations.extend(combos)

# Filter out empty tuples
combinations = [combo for combo in combinations if combo]
```

```
In [396... combo_counts = {}
for i in range(len(combinations)):
    combo = combinations[i]
    count = 0
    for index, row in transaction.iterrows():
        if set(combo).issubset(row):
            count += 1
    combo_counts[i+1] = count
print('These are the 3 possible combinations\n\n')
for combo_num, count in combo_counts.items():
    print(f"({combinations[combo_num-1]}) number of repetitions {count}\n")
```

These are the 3 possible combinations

```
(('Anti-Virus', 'DeskTop', 'DigitalCamera')) number of repetitions 1
(('Anti-Virus', 'DeskTop', 'ExternalHard-Drive')) number of repetitions 3
(('Anti-Virus', 'DeskTop', 'FlashDrive')) number of repetitions 3
(('Anti-Virus', 'DeskTop', 'LabTop')) number of repetitions 2
```

(( 'Anti-Virus', 'DeskTop', 'LabTopCase' )) number of repetitions 3

(( 'Anti-Virus', 'DeskTop', 'MicrosoftOffice' )) number of repetitions 3

(( 'Anti-Virus', 'DeskTop', 'Printer' )) number of repetitions 3

(( 'Anti-Virus', 'DeskTop', 'Speakers' )) number of repetitions 4

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive' )) number of repetitions 3

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive' )) number of repetitions 3

(( 'Anti-Virus', 'DigitalCamera', 'LabTop' )) number of repetitions 4

(( 'Anti-Virus', 'DigitalCamera', 'LabTopCase' )) number of repetitions 5

(( 'Anti-Virus', 'DigitalCamera', 'MicrosoftOffice' )) number of repetitions 3

(( 'Anti-Virus', 'DigitalCamera', 'Printer' )) number of repetitions 2

(( 'Anti-Virus', 'DigitalCamera', 'Speakers' )) number of repetitions 5

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive' )) number of repetitions 6

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop' )) number of repetitions 6

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase' )) number of repetitions 8

(( 'Anti-Virus', 'ExternalHard-Drive', 'MicrosoftOffice' )) number of repetitions 5

(( 'Anti-Virus', 'ExternalHard-Drive', 'Printer' )) number of repetitions 5

(( 'Anti-Virus', 'ExternalHard-Drive', 'Speakers' )) number of repetitions 6

(( 'Anti-Virus', 'FlashDrive', 'LabTop' )) number of repetitions 6

(( 'Anti-Virus', 'FlashDrive', 'LabTopCase' )) number of repetitions 9

(( 'Anti-Virus', 'FlashDrive', 'MicrosoftOffice' )) number of repetitions 8

(( 'Anti-Virus', 'FlashDrive', 'Printer' )) number of repetitions 7

(( 'Anti-Virus', 'FlashDrive', 'Speakers' )) number of repetitions 6

(( 'Anti-Virus', 'LabTop', 'LabTopCase' )) number of repetitions 9

(( 'Anti-Virus', 'LabTop', 'MicrosoftOffice' )) number of repetitions 4

(( 'Anti-Virus', 'LabTop', 'Printer' )) number of repetitions 4

(( 'Anti-Virus', 'LabTop', 'Speakers' )) number of repetitions 5

```

(('Anti-Virus', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 7
(('Anti-Virus', 'LabTopCase', 'Printer')) number of repetitions 6
(('Anti-Virus', 'LabTopCase', 'Speakers')) number of repetitions 8
(('Anti-Virus', 'MicrosoftOffice', 'Printer')) number of repetitions 6
(('Anti-Virus', 'MicrosoftOffice', 'Speakers')) number of repetitions 6
(('Anti-Virus', 'Printer', 'Speakers')) number of repetitions 5
(('DeskTop', 'DigitalCamera', 'ExternalHard-Drive')) number of repetitions 1
(('DeskTop', 'DigitalCamera', 'FlashDrive')) number of repetitions 2
(('DeskTop', 'DigitalCamera', 'LabTop')) number of repetitions 1
(('DeskTop', 'DigitalCamera', 'LabTopCase')) number of repetitions 1
(('DeskTop', 'DigitalCamera', 'MicrosoftOffice')) number of repetitions 2
(('DeskTop', 'DigitalCamera', 'Printer')) number of repetitions 2
(('DeskTop', 'DigitalCamera', 'Speakers')) number of repetitions 1
(('DeskTop', 'ExternalHard-Drive', 'FlashDrive')) number of repetitions 2
(('DeskTop', 'ExternalHard-Drive', 'LabTop')) number of repetitions 2
(('DeskTop', 'ExternalHard-Drive', 'LabTopCase')) number of repetitions 3
(('DeskTop', 'ExternalHard-Drive', 'MicrosoftOffice')) number of repetitions
2
(('DeskTop', 'ExternalHard-Drive', 'Printer')) number of repetitions 2
(('DeskTop', 'ExternalHard-Drive', 'Speakers')) number of repetitions 3
(('DeskTop', 'FlashDrive', 'LabTop')) number of repetitions 1
(('DeskTop', 'FlashDrive', 'LabTopCase')) number of repetitions 2
(('DeskTop', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 5
(('DeskTop', 'FlashDrive', 'Printer')) number of repetitions 5
(('DeskTop', 'FlashDrive', 'Speakers')) number of repetitions 3
(('DeskTop', 'LabTop', 'LabTopCase')) number of repetitions 2
(('DeskTop', 'LabTop', 'MicrosoftOffice')) number of repetitions 1

```

```

(('DeskTop', 'LabTop', 'Printer')) number of repetitions 1
(('DeskTop', 'LabTop', 'Speakers')) number of repetitions 2
(('DeskTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2
(('DeskTop', 'LabTopCase', 'Printer')) number of repetitions 2
(('DeskTop', 'LabTopCase', 'Speakers')) number of repetitions 3
(('DeskTop', 'MicrosoftOffice', 'Printer')) number of repetitions 5
(('DeskTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 3
(('DeskTop', 'Printer', 'Speakers')) number of repetitions 3
(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive')) number of repetitions 2
(('DigitalCamera', 'ExternalHard-Drive', 'LabTop')) number of repetitions 2
(('DigitalCamera', 'ExternalHard-Drive', 'LabTopCase')) number of repetitions 3
(('DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice')) number of repetitions 2
(('DigitalCamera', 'ExternalHard-Drive', 'Printer')) number of repetitions 1
(('DigitalCamera', 'ExternalHard-Drive', 'Speakers')) number of repetitions 3
(('DigitalCamera', 'FlashDrive', 'LabTop')) number of repetitions 2
(('DigitalCamera', 'FlashDrive', 'LabTopCase')) number of repetitions 3
(('DigitalCamera', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 4
(('DigitalCamera', 'FlashDrive', 'Printer')) number of repetitions 3
(('DigitalCamera', 'FlashDrive', 'Speakers')) number of repetitions 3
(('DigitalCamera', 'LabTop', 'LabTopCase')) number of repetitions 5
(('DigitalCamera', 'LabTop', 'MicrosoftOffice')) number of repetitions 2
(('DigitalCamera', 'LabTop', 'Printer')) number of repetitions 2
(('DigitalCamera', 'LabTop', 'Speakers')) number of repetitions 4
(('DigitalCamera', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 3

```

```

(('DigitalCamera', 'LabTopCase', 'Printer')) number of repetitions 2
(('DigitalCamera', 'LabTopCase', 'Speakers')) number of repetitions 6
(('DigitalCamera', 'MicrosoftOffice', 'Printer')) number of repetitions 3
(('DigitalCamera', 'MicrosoftOffice', 'Speakers')) number of repetitions 3
(('DigitalCamera', 'Printer', 'Speakers')) number of repetitions 2
(('ExternalHard-Drive', 'FlashDrive', 'LabTop')) number of repetitions 3
(('ExternalHard-Drive', 'FlashDrive', 'LabTopCase')) number of repetitions 6
(('ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 5
(('ExternalHard-Drive', 'FlashDrive', 'Printer')) number of repetitions 5
(('ExternalHard-Drive', 'FlashDrive', 'Speakers')) number of repetitions 4
(('ExternalHard-Drive', 'LabTop', 'LabTopCase')) number of repetitions 5
(('ExternalHard-Drive', 'LabTop', 'MicrosoftOffice')) number of repetitions 2
(('ExternalHard-Drive', 'LabTop', 'Printer')) number of repetitions 3
(('ExternalHard-Drive', 'LabTop', 'Speakers')) number of repetitions 3
(('ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 5
(('ExternalHard-Drive', 'LabTopCase', 'Printer')) number of repetitions 5
(('ExternalHard-Drive', 'LabTopCase', 'Speakers')) number of repetitions 6
(('ExternalHard-Drive', 'MicrosoftOffice', 'Printer')) number of repetitions 4
(('ExternalHard-Drive', 'MicrosoftOffice', 'Speakers')) number of repetitions 4
(('ExternalHard-Drive', 'Printer', 'Speakers')) number of repetitions 3
(('FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 6
(('FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 5
(('FlashDrive', 'LabTop', 'Printer')) number of repetitions 5
(('FlashDrive', 'LabTop', 'Speakers')) number of repetitions 2

```



```

(('FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 7
(('FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 6
(('FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 5
(('FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 9
(('FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 6
(('FlashDrive', 'Printer', 'Speakers')) number of repetitions 5
(('LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 4
(('LabTop', 'LabTopCase', 'Printer')) number of repetitions 4
(('LabTop', 'LabTopCase', 'Speakers')) number of repetitions 5
(('LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 4
(('LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 2
(('LabTop', 'Printer', 'Speakers')) number of repetitions 2
(('LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 5
(('LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 5
(('LabTopCase', 'Printer', 'Speakers')) number of repetitions 4
(('MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 5

```

```

In [397... print('These are the 3 Frequent item set:\n\n')
for combo_num, count in combo_counts.items():
    if (count / len(transaction) * 100) >= minsupport:
        print(f"({combinations[combo_num-1]}) number of repetitions {count}\n")

```

These are the 3 Frequent item set:

```
(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase')) number of repetitions 8
(( 'Anti-Virus', 'FlashDrive', 'LabTopCase')) number of repetitions 9
(( 'Anti-Virus', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 8
(( 'Anti-Virus', 'FlashDrive', 'Printer')) number of repetitions 7
(( 'Anti-Virus', 'LabTop', 'LabTopCase')) number of repetitions 9
(( 'Anti-Virus', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 7
(( 'Anti-Virus', 'LabTopCase', 'Speakers')) number of repetitions 8
(( 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 7
(( 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 9
```

```
In [398... combinations = []
for r in range(4,20):
    combos = list(itertools.combinations(items, r))
    combinations.extend(combos)

# Filter out empty tuples
combinations = [combo for combo in combinations if combo]
```

```
In [399... combo_counts = {}
for i in range(len(combinations)):
    combo = combinations[i]
    count = 0
    for index, row in transaction.iterrows():
        if set(combo).issubset(row):
            count += 1
            #print(f"Combo {i+1} ({combo}) is a subset of row {index} in the
    combo_counts[i+1] = count
print('These are the 4 and 4+ Frequent item sets:\n\n')
for combo_num, count in combo_counts.items():
    print(f"({combinations[combo_num-1]}) number of repetitions {count}.\n\n")
```

These are the 4 and 4+ Frequent item sets:

```
(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive')) number of
repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive')) number of repetit
ions 1.
```

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTopCase')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTopCase')) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTopCase')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'MicrosoftOffice')) number of repetitions

itions 3.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'LabTopCase')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'LabTopCase', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'LabTopCase', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'MicrosoftOffice', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'Printer', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase' )) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'Speakers' )) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTopCase' )) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice' )) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'Printer' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'Speakers' )) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'LabTopCase' )) number of repetitions 4.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'MicrosoftOffice' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'Printer' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'Speakers' )) number of repetitions 4.

(( 'Anti-Virus', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'LabTopCase', 'Printer' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTopCase', 'Speakers' )) number of repetitions 5.

(( 'Anti-Virus', 'DigitalCamera', 'MicrosoftOffice', 'Printer' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'MicrosoftOffice', 'Speakers' )) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop' )) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase' )) number of repetitions 6.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice' )) number of repetitions 5.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'Printer' )) number of repetitions 5.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'Speakers' )) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'LabTopCase' )) number of repetitions 5.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice' )) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 5.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase', 'Printer')) number of repetitions 5.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase', 'Speakers')) number of repetitions 6.

(( 'Anti-Virus', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'MicrosoftOffice', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'Printer', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 6.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 4.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 4.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 7.

(( 'Anti-Virus', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 6.

(( 'Anti-Virus', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 5.

(( 'Anti-Virus', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 6.

(( 'Anti-Virus', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 6.

(( 'Anti-Virus', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 5.

(( 'Anti-Virus', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 4.

(( 'Anti-Virus', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 4.

(( 'Anti-Virus', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 5.

(( 'Anti-Virus', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'LabTop', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 5.

(( 'Anti-Virus', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 5.

(( 'Anti-Virus', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions



ions 5.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 2.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'Printer')) number of repetitions 2.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'DeskTop', 'DigitalCamera', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'Printer')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'Printer')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'Speakers')) number of repetitions 3.

(( 'DeskTop', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 1.

(( 'DeskTop', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'DeskTop', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 2.

(( 'DeskTop', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 5.

(( 'DeskTop', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 3.

(( 'DeskTop', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 3.

(( 'DeskTop', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'DeskTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 3.

(( 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop' )) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase' )) number of repetitions 2.

(( 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice' )) number of repetitions 2.

(( 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Printer' )) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Speakers' )) number of repetitions 2.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase' )) number of repetitions 2.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice' )) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Printer' )) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Speakers' )) number of repetitions 2.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 2.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Printer' )) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Speakers' )) number of repetitions 3.

(('DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'ExternalHard-Drive', 'Printer', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 3.

(('DigitalCamera', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 3.

(('DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 3.

(('DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 3.

(('DigitalCamera', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'DigitalCamera', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 2.

(( 'DigitalCamera', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 4.

(( 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'DigitalCamera', 'LabTop', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 3.

(( 'DigitalCamera', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DigitalCamera', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 3.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 2.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 3.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions

itions 1.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 5.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer' )) number of repetitions 5.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Speakers' )) number of repetitions 4.

(( 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer' )) number of repetitions 4.

(( 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Speakers' )) number of repetitions 4.

(( 'ExternalHard-Drive', 'FlashDrive', 'Printer', 'Speakers' )) number of repetitions 3.

(( 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 2.

(( 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer' )) number of repetitions 3.

(( 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Speakers' )) number of repetitions 3.

(( 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer' )) number of repetitions 2.

(( 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'ExternalHard-Drive', 'LabTop', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 4.



(('ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 4.

(('ExternalHard-Drive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 3.

(('ExternalHard-Drive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 3.

(('FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 4.

(('FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 4.

(('FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 2.

(('FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 4.

(('FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 2.

(('FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 5.

(('FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 5.

(('FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 4.

(('FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 5.

(('LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions

ns 3.

(( 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTopCase', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTopCase', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'Printer', 'Speakers')) number of repetitions 2.

ber of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTopCase', 'Printer' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTopCase', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'MicrosoftOffice', 'Printer' )) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'MicrosoftOffice', 'Speakers' )) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'Printer', 'Speakers' )) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'LabTopCase', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'LabTopCase', 'Speakers' )) number of repetitions 2.

(('Anti-Virus', 'DeskTop', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('Anti-Virus', 'DeskTop', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('Anti-Virus', 'DeskTop', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(('Anti-Virus', 'DeskTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(('Anti-Virus', 'DeskTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('Anti-Virus', 'DeskTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(('Anti-Virus', 'DeskTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 3.

(('Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop')) number of repetitions 1.

(('Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase')) number of repetitions 2.

(('Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice')) number of repetitions 2.

(('Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Printer')) number of repetitions 1.

(('Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Speakers')) number of repetitions 2.

(('Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Speaker



s')) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 5.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 5.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 4.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 4.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 5.

(( 'Anti-Virus', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 5.

(( 'Anti-Virus', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 5.

(( 'Anti-Virus', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 4.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Microsoft Office')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Microsoft Office')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase')) number

of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase' )) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice' )) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer' )) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer' )) number of repetitions 2.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Speakers' )) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(('DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(('DeskTop', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DeskTop', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(('DeskTop', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 3.

(('DeskTop', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DeskTop', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DeskTop', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of



repetitions 1.

((('DeskTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 2.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 3.

(('DigitalCamera', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(('DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(('ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(('ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 3.

(('ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 4.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 4.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 3.

(( 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 3.

(( 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 3.

(( 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 3.

(( 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

er of repetitions 2.

(( 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 4.

(( 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice' ))



e', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 3.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase' )) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice',

'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 4.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 3.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 3.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'Anti-Virus', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 4.

(( 'Anti-Virus', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Microsoft Office', 'Printer')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Microsoft Office', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.



rs')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(('DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(('DeskTop', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(('DeskTop', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(('DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

ter', 'Speakers')) number of repetitions 3.

(( 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftO



ffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 3.

(( 'Anti-Virus', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice',

('Printer', 'Speakers')) number of repetitions 1.

((('DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

((('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

((('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

((('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

((('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

((('DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

((('DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

((('DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

((('DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 2.

(( 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Speakers' )) number of repetitions 1.

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(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'MicrosoftOffice', 'Printer', 'Speakers' )) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 2.

(( 'Anti-Virus', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop',



'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop',  
'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop',  
'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop',  
'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase',  
'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase',  
'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'Microso  
ftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'Mi  
crosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCas  
e', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDriv  
e', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer')) number of repetit  
ions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDriv  
e', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Speakers')) number of repeti  
tions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDriv  
e', 'LabTop', 'LabTopCase', 'Printer', 'Speakers')) number of repetitions 1.

(( 'Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDriv  
e', 'LabTop', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitio  
ns 1.

```
(('Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.
```

```
(('Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.
```

```
(('Anti-Virus', 'DeskTop', 'DigitalCamera', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.
```

```
(('Anti-Virus', 'DeskTop', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.
```

```
(('Anti-Virus', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.
```

```
(('DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.
```

```
(('Anti-Virus', 'DeskTop', 'DigitalCamera', 'ExternalHard-Drive', 'FlashDrive', 'LabTop', 'LabTopCase', 'MicrosoftOffice', 'Printer', 'Speakers')) number of repetitions 1.
```

```
In [400... print('These are all the other frequent item sets:\n')
for combo_num, count in combo_counts.items():
    if (count / len(transaction) * 100) >= minsupport:
        print(f"({combinations[combo_num-1]}) number of repetitions: {count}")
```

These are all the other frequent item sets:

```
(('Anti-Virus', 'FlashDrive', 'LabTopCase', 'MicrosoftOffice')) number of repetitions: 7 .
```

```
In [401... elapsed_time = time.time() - start_time
print("--- %s seconds ---" % (elapsed_time))
```

```
--- 0.4260389804840088 seconds ---
```

## Aplying Apriori Library

```
In [450... import csv
import pandas as pd
import time
from itertools import combinations
from apyori import apriori
from mlxtend.frequent_patterns import apriori, fpmax
from mlxtend.frequent_patterns import association_rules
from mlxtend.preprocessing import TransactionEncoder
```

```
In [451... #The below will allow us to read the file
def load_data(filename):
    full_transaction_list= []
    with open(filename, encoding = 'utf-8-sig') as data:
        transaction_data = csv.reader(data, delimiter = ',')
        for row in transaction_data:
            filtered_rows = [value for value in row if value != '']
            full_transaction_list.append(filtered_rows)
    return full_transaction_list
```

```
In [452... new_list = load_data(input('please enter file name\n\n'))
```

please enter file name

Transactions\_3.csv

```
In [453... new_list
```

```

Out[453]: [['DecorativePillows', 'Quilts', 'EmbroideredBedspread'],
           ['EmbroideredBedspread',
            'Shams',
            'KidsBedding',
            'BeddingCollections',
            'BedSkirts',
            'Bedspreads',
            'Sheets'],
           ['DecorativePillows',
            'Quilts',
            'EmbroideredBedspread',
            'Shams',
            'KidsBedding',
            'BeddingCollections'],
           ['KidsBedding', 'BeddingCollections', 'Sheets', 'Bedspreads', 'BedSkirts'],
           ['DecorativePillows',
            'KidsBedding',
            'BeddingCollections',
            'Sheets',
            'BedSkirts',
            'Bedspreads'],
           ['BeddingCollections',
            'Bedspreads',
            'BedSkirts',
            'Sheets',
            'Shams',
            'KidsBedding'],
           ['DecorativePillows', 'Quilts'],
           ['DecorativePillows', 'Quilts', 'EmbroideredBedspread'],
           ['Bedspreads', 'BedSkirts', 'Shams', 'KidsBedding', 'Sheets'],
           ['Quilts', 'EmbroideredBedspread', 'BeddingCollections'],
           ['BeddingCollections',
            'Bedspreads',
            'BedSkirts',
            'KidsBedding',
            'Shams',
            'Sheets'],
           ['DecorativePillows', 'Quilts'],
           ['EmbroideredBedspread', 'Shams'],
           ['Sheets', 'Shams', 'BedSkirts', 'KidsBedding'],
           ['DecorativePillows', 'Quilts'],
           ['DecorativePillows', 'KidsBedding', 'BedSkirts', 'Shams'],
           ['DecorativePillows', 'Shams', 'BedSkirts'],
           ['Quilts', 'Sheets', 'KidsBedding'],
           ['Shams', 'BedSkirts', 'KidsBedding', 'Sheets'],
           ['DecorativePillows',
            'Bedspreads',
            'Shams',
            'Sheets',
            'BedSkirts',
            'KidsBedding']]

```

```
In [454... TranEn = TransactionEncoder()
TranEn_ary=TranEn.fit(new_list).transform(new_list)
```

```
In [455... Dataframe = pd.DataFrame(TranEn_ary, columns=TranEn.columns_)
Dataframe
```

```
Out[455]:
```

	BedSkirts	BeddingCollections	Bedspreads	DecorativePillows	EmbroideredBedspread
0	False	False	False	True	True
1	True	True	True	False	True
2	False	True	False	True	True
3	True	True	True	False	False
4	True	True	True	True	False
5	True	True	True	False	False
6	False	False	False	True	False
7	False	False	False	True	True
8	True	False	True	False	False
9	False	True	False	False	True
10	True	True	True	False	False
11	False	False	False	True	False
12	False	False	False	False	True
13	True	False	False	False	False
14	False	False	False	True	False
15	True	False	False	True	False
16	True	False	False	True	False
17	False	False	False	False	False
18	True	False	False	False	False
19	True	False	True	True	False

```
In [456... frequentItemsets = apriori(Dataframe, min_support = 0.40, use_colnames=True)
frequentItemsets
```

Out [456]:

	support	itemsets
0	0.55	(BedSkirts)
1	0.50	(DecorativePillows)
2	0.60	(KidsBedding)
3	0.40	(Quilts)
4	0.55	(Shams)
5	0.50	(Sheets)
6	0.50	(BedSkirts, KidsBedding)
7	0.45	(Shams, BedSkirts)
8	0.45	(Sheets, BedSkirts)
9	0.45	(Shams, KidsBedding)
10	0.50	(Sheets, KidsBedding)
11	0.40	(Shams, BedSkirts, KidsBedding)
12	0.45	(Sheets, BedSkirts, KidsBedding)

In [457... Rules = association\_rules(frequentItemsets, metric="confidence", min\_threshc  
Rules

Out [457]:

	antecedents	consequents	antecedent support	consequent support	support	confidence	lift	leverage
0	(BedSkirts)	(KidsBedding)	0.55	0.60	0.50	0.909091	1.515152	0.000000
1	(KidsBedding)	(BedSkirts)	0.60	0.55	0.50	0.833333	1.515152	0.000000
2	(Shams)	(BedSkirts)	0.55	0.55	0.45	0.818182	1.487603	0.000000
3	(BedSkirts)	(Shams)	0.55	0.55	0.45	0.818182	1.487603	0.000000
4	(Sheets)	(BedSkirts)	0.50	0.55	0.45	0.900000	1.636364	0.000000
5	(BedSkirts)	(Sheets)	0.55	0.50	0.45	0.818182	1.636364	0.000000
6	(Shams)	(KidsBedding)	0.55	0.60	0.45	0.818182	1.363636	0.000000
7	(Sheets)	(KidsBedding)	0.50	0.60	0.50	1.000000	1.666667	0.000000
8	(KidsBedding)	(Sheets)	0.60	0.50	0.50	0.833333	1.666667	0.000000
9	(Shams, BedSkirts)	(KidsBedding)	0.45	0.60	0.40	0.888889	1.481481	0.000000
10	(Shams, KidsBedding)	(BedSkirts)	0.45	0.55	0.40	0.888889	1.616162	0.000000
11	(BedSkirts, KidsBedding)	(Shams)	0.50	0.55	0.40	0.800000	1.454545	0.000000
12	(Sheets, BedSkirts)	(KidsBedding)	0.45	0.60	0.45	1.000000	1.666667	0.000000
13	(Sheets, KidsBedding)	(BedSkirts)	0.50	0.55	0.45	0.900000	1.636364	0.000000
14	(BedSkirts, KidsBedding)	(Sheets)	0.50	0.50	0.45	0.900000	1.800000	0.000000
15	(Sheets)	(BedSkirts, KidsBedding)	0.50	0.50	0.45	0.900000	1.800000	0.000000
16	(BedSkirts)	(Sheets, KidsBedding)	0.55	0.50	0.45	0.818182	1.636364	0.000000

## Conclusion

In conclusion, for the First transaction, it was very noticeable how faster Apriori (time: 0.07831096649169922 seconds) was compared to brute force method (Time: 0.4260389804840088 seconds). Also, by using an existing library, I was able to compare the results to my implementation and they both had the same number of Rules meaning that the implementation was working correctly. Also, by implementing the brute force method, I was able to see that the One, two, and three itemsets matched to ones from the apriori implementation meaning that the Brute Force even though it took more time, it returned the same results as the Apriori Algorithm

In [ ]: