IT414 Assignment 2

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TOPIC: FP-GROWTH ALGORITHM

Note:

1) The colab link has been attached below. After opening the link, if it opens in drive, click on "Open with Google Colaboratory" to view the complete code.

Colab notebook link:

https://colab.research.google.com/drive/1TK_HayDM3NNIVu8HPAUeZNNBbP-dBUR7

Q. On the AllElectronics dataset, generate all the Frequent Itemsets with the minimum support of 2. Generate all the Association Rules with a confidence threshold >=70%, and with frequent 3 item sets (Length 3).

Transactional Data for an *AllElectronics* Branch

TID	List of item_IDs
T100	I1, I2, I5
T200	I2, I4
T300	I2, I3
T400	I1, I2, I4
T500	I1, I3
T600	I2, I3
T700	I1, I3
T800	I1, I2, I3, I5
T900	I1, I2, I3

Output Screenshots:

Frequent Itemsets of length 3:

```
Frequent itemsets of length 3:
['I5', 'I1', 'I2'] => 2
['I3', 'I1', 'I2'] => 2
```

Association Rules:

```
Association rules which satisfy threshold confidence
{'I5'} =>  {'I1', 'I2'} 1.0
{'I5', 'I1'} =>  {'I2'} 1.0
{'I5', 'I2'} =>  {'I1'} 1.0

Total no. of associations: 3
```

Q. On the GoodsService dataset, generate all the Frequent Itemsets with the minimum support of 3. Generate all the Association Rules with a confidence threshold >=70%, and with frequent 4 item sets (Length 4).

First 100 rows have been considered in the dataset.

Output Screenshots:

Frequent itemsets with length 4:

```
Frequent itemsets of length 4:
['48', '41', '39', '38'] => 3
['36', '41', '39', '38'] => 3
['170', '48', '39', '38'] => 3
['32', '48', '39', '38'] => 3
['32', '48', '41', '38'] => 3
```

Association Rules:

(continued on next page…)

```
Association rules which satisfy threshold confidence
{'36', '41'} =>  {'39', '38'} 1.0
{'36', '41', '38'} =>  {'39'} 1.0
{'170'} =>  {'48', '39', '38'} 1.0
{'170', '48'} =>  {'39', '38'} 1.0
{'170', '39'} =>  {'48', '38'} 1.0
{'170', '38'} =>  {'48', '39'} 1.0
{'170', '48', '39'} =>  {'38'} 1.0
{'170', '48', '38'} =>  {'39'} 1.0
{'170', '39', '38'} =>  {'48'} 1.0
{'32', '38'} =>  {'48', '39'} 1.0
{'32', '48', '38'} =>  {'39'} 1.0
{'32', '39', '38'} =>  {'48'} 1.0
{'32', '41'} =>  {'48', '38'} 0.75
{'32', '38'} =>  {'48', '41'} 1.0
{'32', '48', '41'} =>  {'38'} 1.0
{'32', '48', '38'} =>  {'41'} 1.0

Total no. of associations: 16
```

THANK YOU