Advanced Tutorial on Implementing FCPGrowth Algorithm

In this tutorial, we explain how the FCPGrowth algorithm can be implemented by varying the minimum support values

Step 1: Import the FCPGrowth algorithm and pandas data frame

In [1]:
```
from PAMI.fuzzyCorrelatedPattern.basic import FCPGrowth  as alg
import pandas as pd
```

Step 2: Specify the following input parameters

In [2]:
```
inputFile = 'T10_utility.txt'

minimumSupportCountList=[800,1000,1200,1400,1800]  #Users can also specify this cons
ratioEx=0.8
seperator='¥t'
result = pd.DataFrame(columns=['algorithm', 'minSup', 'patterns', 'runtime', 'memory
#initialize a data frame to store the results of FCPGrowth algorithm
```

Step 3: Execute the FCPGrowth algorithm using a for loop

In [3]:
```
algorithm = 'FCPGrowth'  #specify the algorithm name
for minSupCount in minimumSupportCountList:
    obj = alg.FCPGrowth(iFile=inputFile, minSup=minSupCount,ratio=ratioEx, sep=sepe
    obj.startMine()
    #store the results in the data frame
    result.loc[result.shape[0]] = [algorithm, minSupCount, len(obj.getPatterns()), 
```

```
Fuzzy Correlated Patterns Successfully generated using FCPGrowth algorithms
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```

In [4]:
```
print(result)
```

```
   algorithm  minSup  patterns     runtime     memory
0  FCPGrowth     800       468  438.653513  628961280
1  FCPGrowth    1000       383  339.194458  537227264
2  FCPGrowth    1200       318  259.559553  485363712
3  FCPGrowth    1400       259  191.587869  448913408
4  FCPGrowth    1800       174  103.250598  401055744
```

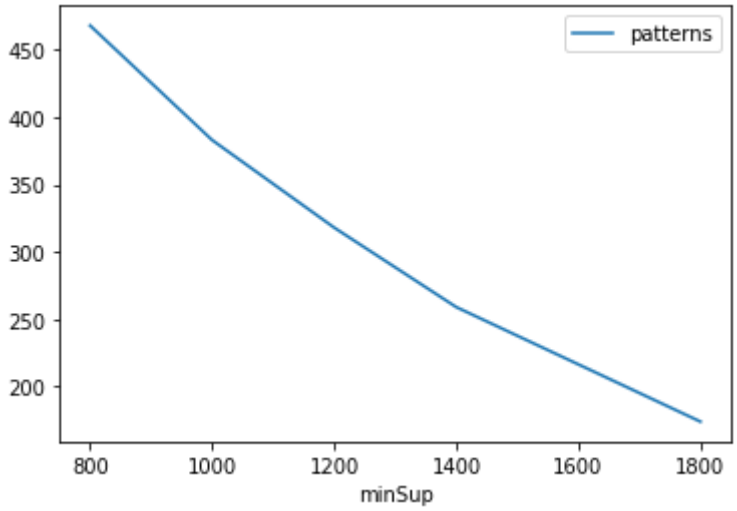
Step 5: Visualizing the results

Step 5.1 Importing the plot library

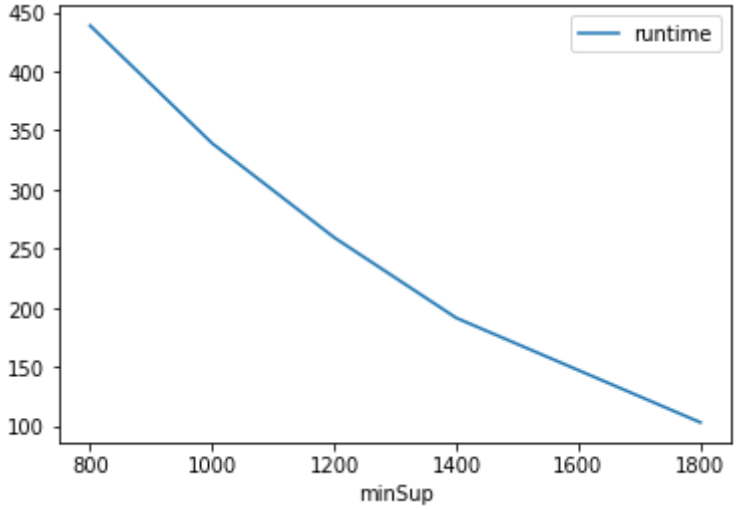
In [5]:
```
from PAMI.extras.graph import plotLineGraphsFromDataFrame as plt
```

Step 5.2. Plotting the number of patterns

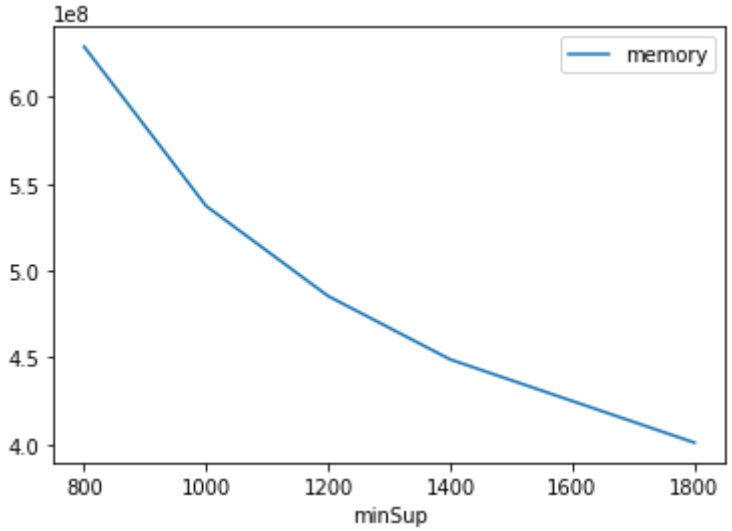
In [6]:
```
ab = plt.plotGraphsFromDataFrame(result)
ab.plotGraphsFromDataFrame() #drawPlots()
```



Graph for No Of Patterns is successfully generated!



Graph for Runtime taken is successfully generated!



Graph for memory consumption is successfully generated!

Step 6: Saving the results as latex files

In [7]:
```
from PAMI.extras.graph import generateLatexFileFromDataFrame as gdf
gdf.generateLatexCode(result)
```

Latex files generated successfully