Advanced Tutorial on Implementing EPCPGrowth Algorithm

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

Step 1: Import the EPCPGrowth algorithm and pandas data frame

In [1]:
```
from PAMI.periodicCorrelatedPattern import EPCPGrowth  as alg
import pandas as pd
```

Step 2: Specify the following input parameters

In [2]:
```
inputFile = 'temporal_T10I4D100K.csv'
seperator='¥t'
maxmunPeriodCount=5000
minimumSupportCountList = [100, 150, 200, 250, 300]
#minimumSupport can also specified between 0 to 1. E.g., minSupList = [0.005, 0.006,
minAllConfCount=0.5
maxPerAllmaxPerConfCount=0.5
result = pd.DataFrame(columns=['algorithm', 'minSup','minAllConf','maxPer','maxPerAl
#initialize a data frame to store the results of EPCPGrowth algorithm
```

Step 3: Execute the EPCPGrowth algorithm using a for loop

In [3]:
```
algorithm = 'EPCPGrowth'  #specify the algorithm name
for minSupCount in minimumSupportCountList:
    obj = alg.EPCPGrowth('temporal_T10I4D100K.csv', minSup=minSupCount,minAllConf=mi
    obj.startMine()
    neighborFile='T10_utility_neighbour.txt'
    #store the results in the data frame
    result.loc[result.shape[0]] = [algorithm, minSupCount,minAllConfCount,maxmunPeri
```

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Periodic Frequent patterns were generated successfully using PFPGrowth algorithm
```

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

```
    algorithm  minSup  minAllConf  maxPer  maxPerAllConf  patterns   runtime  ¥
0  EPCPGrowth     100         0.5    5000            0.5         0  5.082180
1  EPCPGrowth     150         0.5    5000            0.5         0  4.664614
2  EPCPGrowth     200         0.5    5000            0.5         0  4.866936
3  EPCPGrowth     250         0.5    5000            0.5         0  5.025409
4  EPCPGrowth     300         0.5    5000            0.5         0  4.544416

      memory
0  572940288
1  572137472
2  570265600
3  567861248
4  564633600
```

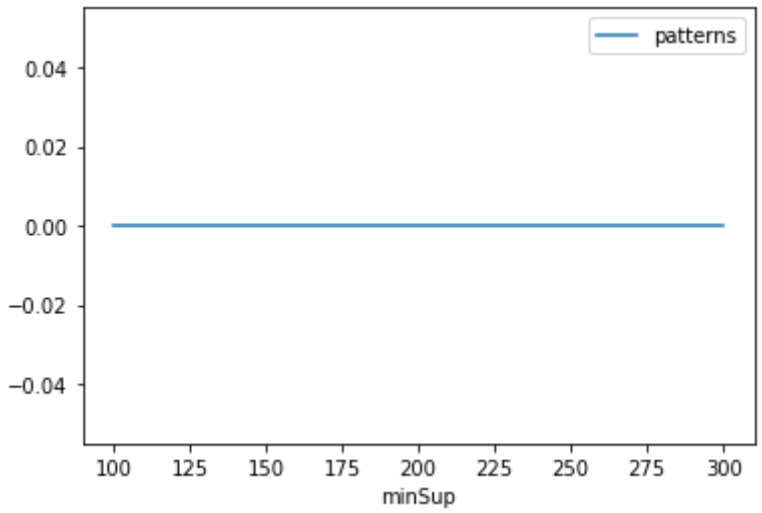
Step 5: Visualizing the results

Step 5.1 Importing the plot library

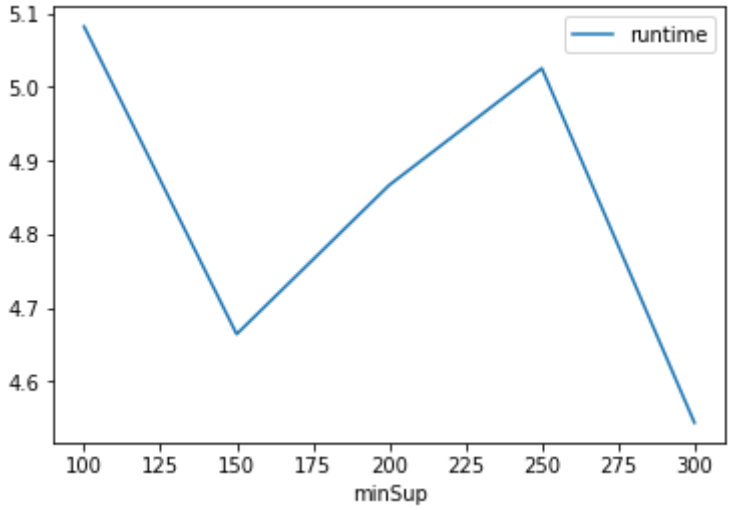
In [5]:
```
from PAMI.extras.graph import plotLineGraphsFromDataFrame as plt
```

Step 5.2. Plotting the number of patterns

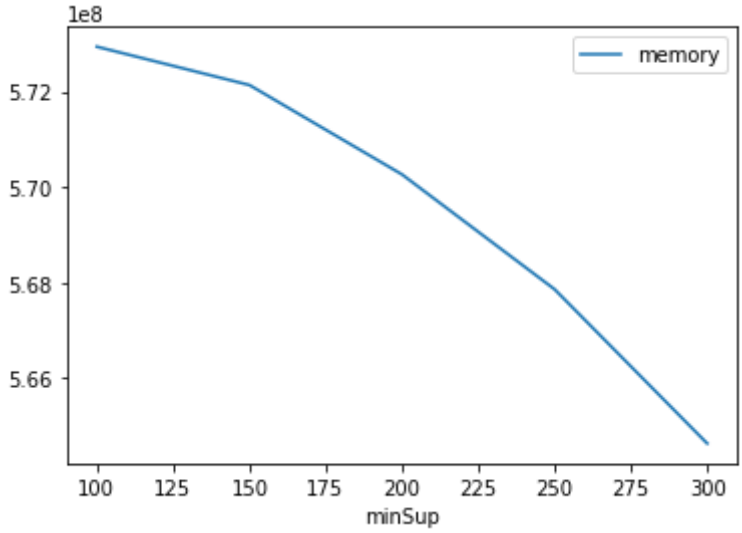
In [6]:
```
ab = plt.plotGraphsFromDataFrame(result)
ab.plotGraphsFromDataFrame() #drawPlots()
```




```
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