Advanced Tutorial on Implementing PFPGrowthPlus Algorithm

In this tutorial, we explain how the Periodic Frequent Puttern Growth Plus (PFPGrowthPlus) algorithm can be implemented by varying the minimum support values

Step 1: Import the PFPGrowthPlus algorithm and pandas data frame

In [1]:
```
from PAMI.periodicFrequentPattern.basic import PFPGrowthPlus  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,

result = pd.DataFrame(columns=['algorithm', 'minSup', 'maxPer','patterns', 'runtime'
#initialize a data frame to store the results of PFPGrowthPlus algorithm
```

Step 3: Execute the PFPGrowthPlus algorithm using a for loop

In [3]:
```
algorithm = 'PFPGrowthPlus'  #specify the algorithm name
for minSupCount in minimumSupportCountList:
    obj = alg.PFPGrowthPlus('temporal_T10I4D100K.csv', minSup=minSupCount,maxPer=max
    obj.startMine()
    #store the results in the data frame
    result.loc[result.shape[0]] = [algorithm, minSupCount,maxmunPeriodCount, len(obj
```

```
periodic-frequent patterns were generated successfully using PFPGrowth++ algorithm
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```

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

```
       algorithm  minSup  maxPer  patterns    runtime     memory
0  PFPGrowthPlus     100    5000     25462  12.942107  579301376
1  PFPGrowthPlus     150    5000     18982  11.716884  577437696
2  PFPGrowthPlus     200    5000     13251  11.130969  574922752
3  PFPGrowthPlus     250    5000      7702  10.318596  570114048
4  PFPGrowthPlus     300    5000      4552  10.184319  566091776
```

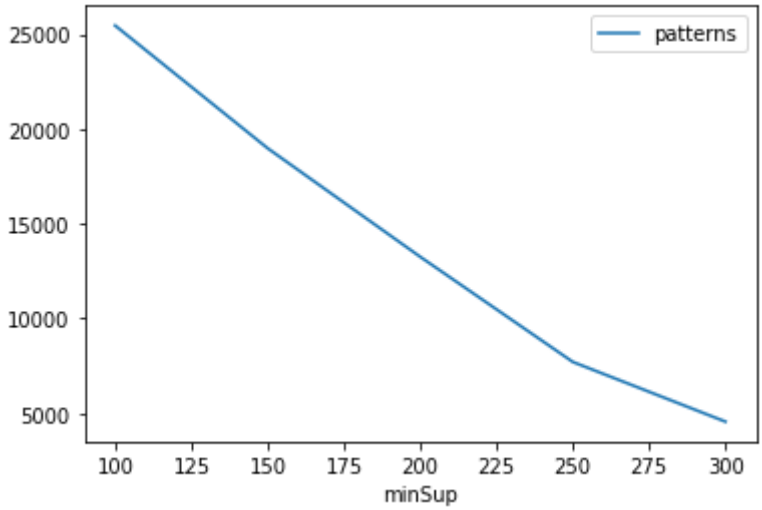
Step 5: Visualizing the results

Step 5.1 Importing the plot library

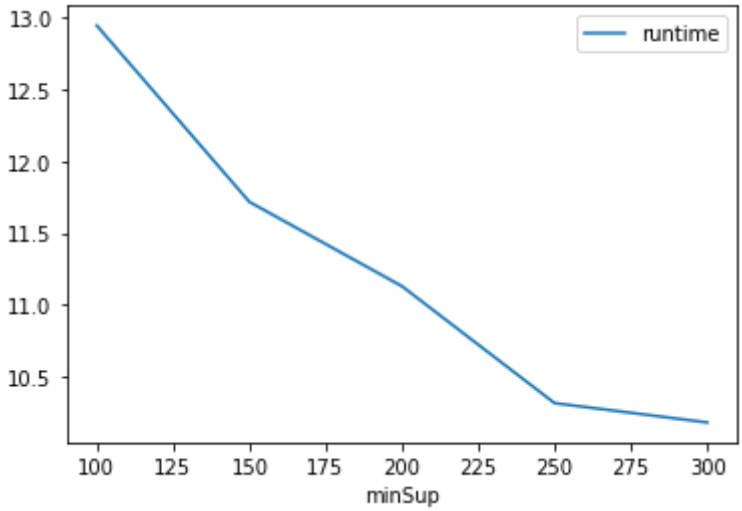
In [5]:
```
from PAMI.extras.graph import plotLineGraphsFromDataFrame as plt
```

Step 5.2. Plotting the number of patterns

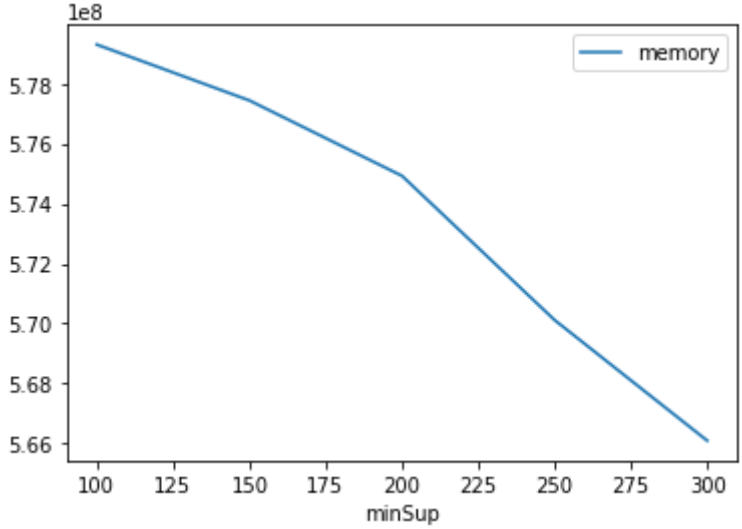
In [6]:
```
ab = plt.plotGraphsFromDataFrame(result)
ab.plotGraphsFromDataFrame() #drawPlots()
```



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
```