Advanced Tutorial on Implementing CPFPMiner Algorithm

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

Step 1: Import the CPFPMiner algorithm and pandas data frame

In [1]:
```
from PAMI.periodicFrequentPattern.closed import CPFPMiner  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 CPFPMiner algorithm
```

Step 3: Execute the CPFPMiner algorithm using a for loop

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

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

```
   algorithm  minSup  maxPer  patterns    runtime     memory
0  CPFPMiner     100    5000     24711  21.105902  145326080
1  CPFPMiner     150    5000     18448  19.881866  148971520
2  CPFPMiner     200    5000     13095  18.855100  150237184
3  CPFPMiner     250    5000      7651  17.600360  151318528
4  CPFPMiner     300    5000      4509  16.433301  153374720
```

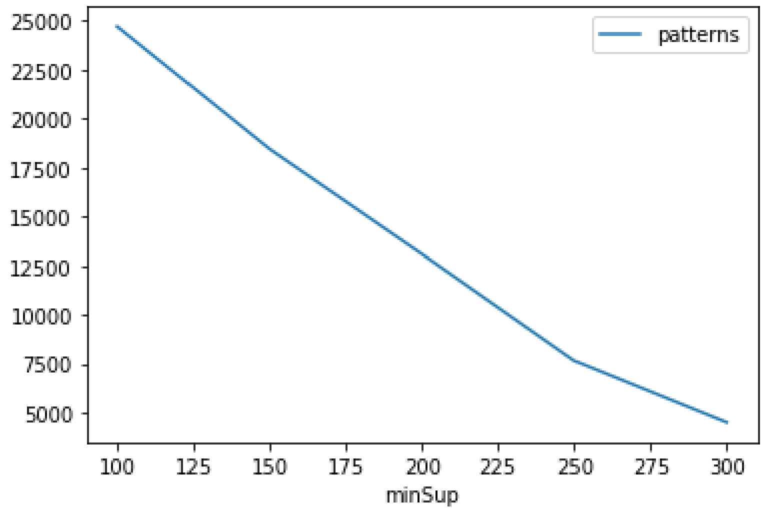
Step 5: Visualizing the results

Step 5.1 Importing the plot library

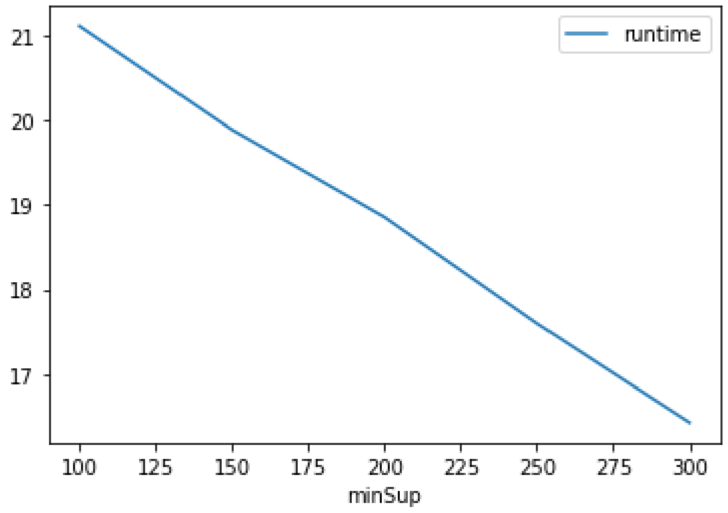
In [5]:
```
from PAMI.extras.graph import plotLineGraphsFromDataFrame as plt
```

Step 5.2. Plotting the number of patterns

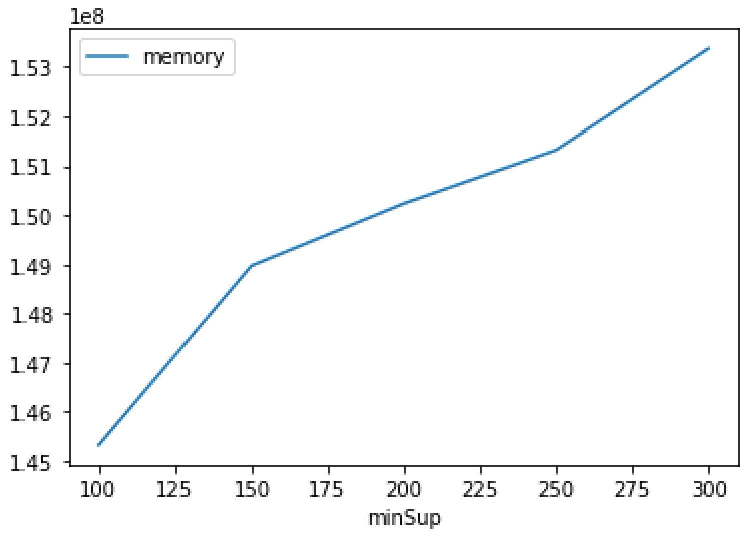
In [6]:
```
ab = plt.plotGraphsFromDataFrame(result)
ab.plotGraphsFromDataFrame() #drawPlots()
```



```
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
```