Advanced Tutorial on Implementing CPGrowthPlus Algorithm

In this tutorial, we explain how the Correlated Pattern GrowthPlus (CPGrowthPlus) algorithm can be implemented by varying the minimum support values

Step 1: Import the CPGrowthPlus algorithm and pandas data frame

In [1]:
```
from PAMI.correlatedPattern.basic import CPGrowthPlus  as alg
import pandas as pd
```

Step 2: Specify the following input parameters

In [2]:
```
inputFile = 'transactional_T10I4D100K.csv'
seperator='¥t'
minAllConfCount=0.1
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',"minAllConf" , 'patterns', 'rur
#initialize a data frame to store the results of CPGrowthPlus algorithm
```

Step 3: Execute the CPGrowthPlus algorithm using a for loop

In [3]:
```
algorithm = 'CPGrowthPlus'  #specify the algorithm name
for minSupCount in minimumSupportCountList:
    obj = alg.CPGrowthPlus('transactional_T10I4D100K.csv', minSup=minSupCount,minAll
    obj.startMine()
    #store the results in the data frame
    result.loc[result.shape[0]] = [algorithm, minSupCount,minAllConfCount, len(obj.g
```

```
Correlated Frequent patterns were generated successfully using CorrelatedPatternGrow
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```

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

```
      algorithm  minSup  minAllConf  patterns    runtime     memory
0  CPGrowthPlus     100         0.1      5758  13.352987  402366464
1  CPGrowthPlus     150         0.1     15301  12.484414  466128896
2  CPGrowthPlus     200         0.1     22335  13.368088  484454400
3  CPGrowthPlus     250         0.1     28536  13.717880  490815488
4  CPGrowthPlus     300         0.1     33074  14.665221  499810304
```

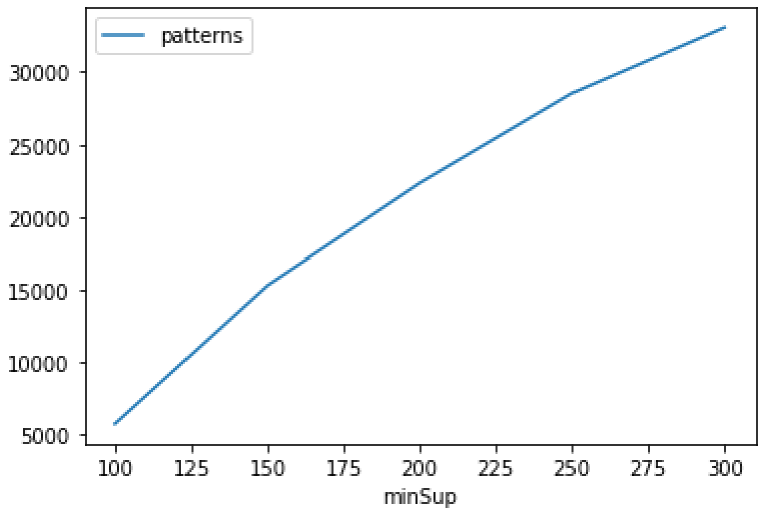
Step 5: Visualizing the results

Step 5.1 Importing the plot library

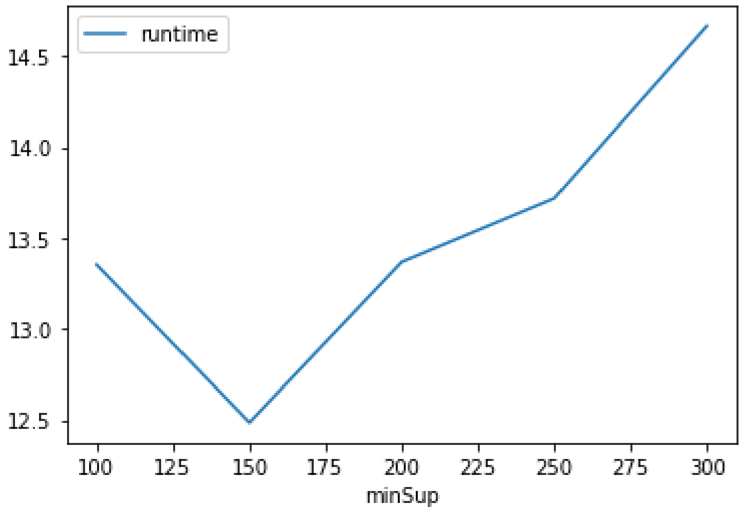
In [5]:
```
from PAMI.extras.graph import plotLineGraphsFromDataFrame as plt
```

Step 5.2. Plotting the number of patterns

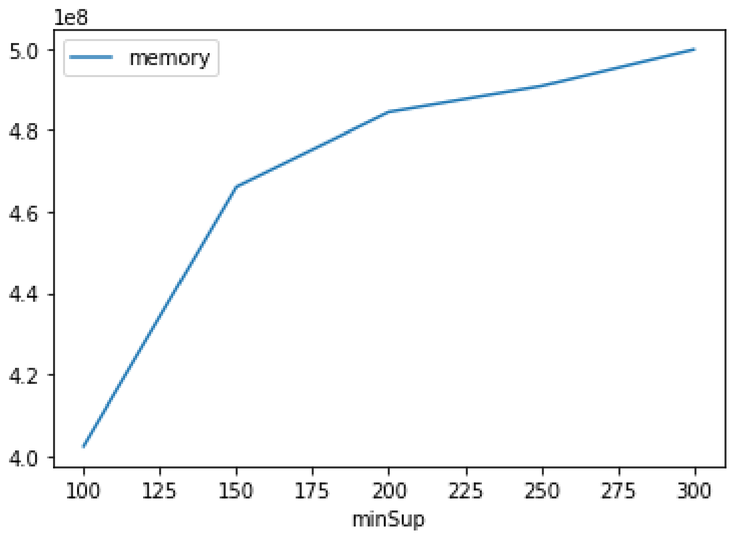
In [6]:
```
ab = plt.plotGraphsFromDataFrame(result)
ab.plotGraphsFromDataFrame() #drawPlots()
```



```
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
```

In [ ]:
```
```