Advanced Tutorial on Implementing SpatialECLAT Algorithm

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

Step 1: Import the SpatialECLAT algorithm and pandas data frame

In [1]:
```
from PAMI.frequentSpatialPattern.basic import SpatialECLAT  as alg
import pandas as pd
```

Step 2: Specify the following input parameters

In [2]:
```
inputFile = 'transactional_T10I4D100K.csv'
seperator='¥t'
minimumSupportCountList = [100, 150, 200, 250, 300]
#minimumSupport can also specified between 0 to 1. E.g., minSupList = [0.005, 0.006,
neighborFile='T10_utility_neighbour.txt'
result = pd.DataFrame(columns=['algorithm', 'minSup', 'patterns', 'runtime', 'memory
#initialize a data frame to store the results of SpatialECLAT algorithm
```

Step 3: Execute the SpatialECLAT algorithm using a for loop

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

```
Spatial Frequent patterns were generated successfully using SpatialECLAT algorithm
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```

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

```
      algorithm  minSup  patterns    runtime     memory
0  SpatialECLAT     100      4300  39.124038  244211712
1  SpatialECLAT     150      2971  23.278850  244662272
2  SpatialECLAT     200      2291  18.359012  244826112
3  SpatialECLAT     250      1798  15.450596  244842496
4  SpatialECLAT     300      1440  13.883977  244600832
```

Step 5: Visualizing the results

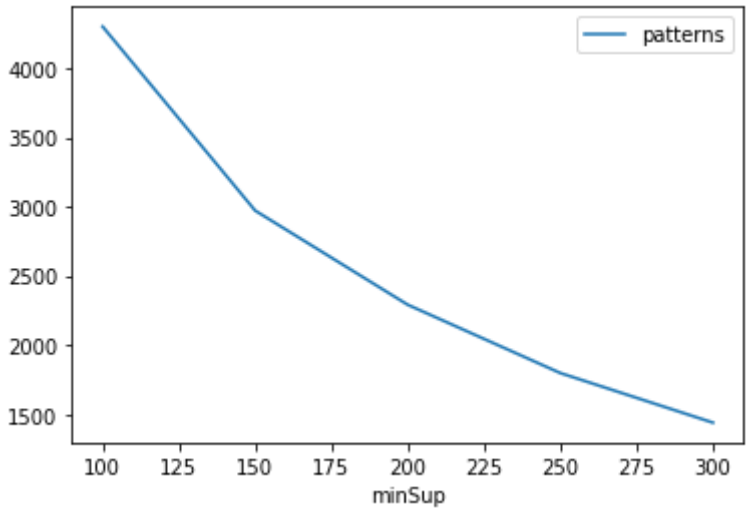
Step 5.1 Importing the plot library

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

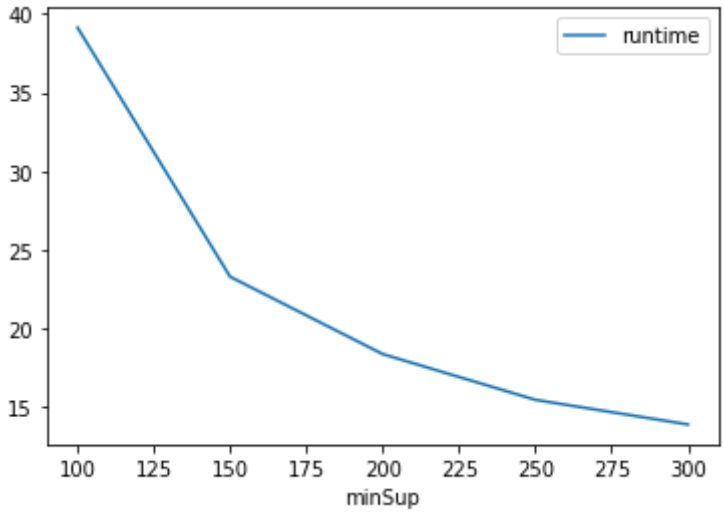
Step 5.2. Plotting the number of patterns

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

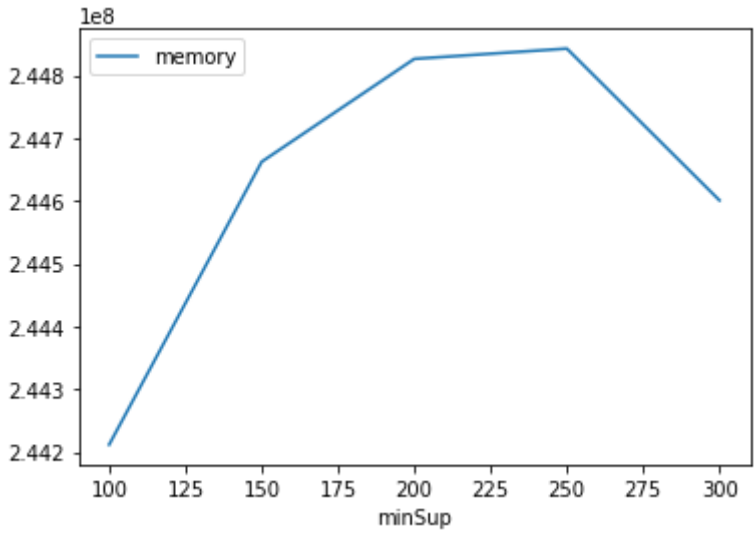
```
ab.plotGraphsFromDataFrame() #drawPlots()
```



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