Advanced Tutorial on Implementing HMiner Algorithm

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

Step 1: Import the HMiner algorithm and pandas data frame

In [1]:
```
from PAMI.highUtilityPatterns.basic import HMiner  as alg
import pandas as pd
```

Step 2: Specify the following input parameters

In [2]:
```
inputFile = 'retail_utility.txt'
minUtilList=[10000,20000,30000,40000,50000]
seperator=' '
result = pd.DataFrame(columns=['algorithm', 'minSup', 'patterns', 'runtime', 'memory
#initialize a data frame to store the results of HMiner algorithm
```

Step 3: Execute the HMiner algorithm using a for loop

In [3]:
```
algorithm = 'HMiner'  #specify the algorithm name
for minimumUtility in minUtilList:
    obj = alg.HMiner(iFile1=inputFile, minUtil=minimumUtility, sep=seperator)
    obj.startMine()
    #store the results in the data frame
    result.loc[result.shape[0]] = [algorithm, minimumUtility, len(obj.getPatterns())
```

```
High Utility patterns were generated successfully using HMiner algorithm
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```

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

```
  algorithm  minSup  patterns     runtime     memory
0    HMiner   10000       912  548.168591  529215488
1    HMiner   20000       259  131.339580  476606464
2    HMiner   30000       114   41.597492  455356416
3    HMiner   40000        66   15.249419  439250944
4    HMiner   50000        47    8.647581  425992192
```

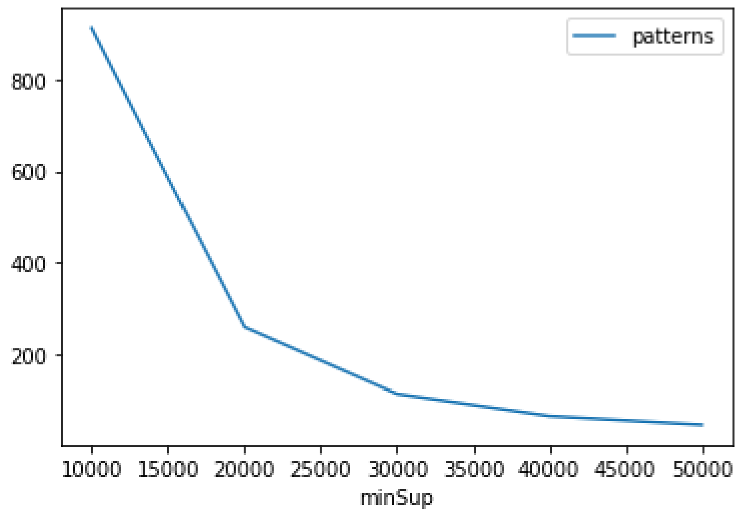
Step 5: Visualizing the results

Step 5.1 Importing the plot library

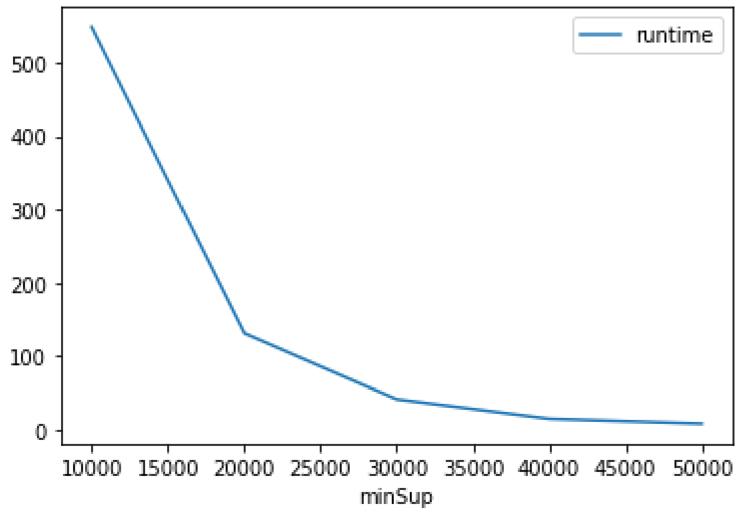
In [5]:
```
from PAMI.extras.graph import plotLineGraphsFromDataFrame as plt
```

Step 5.2. Plotting the number of patterns

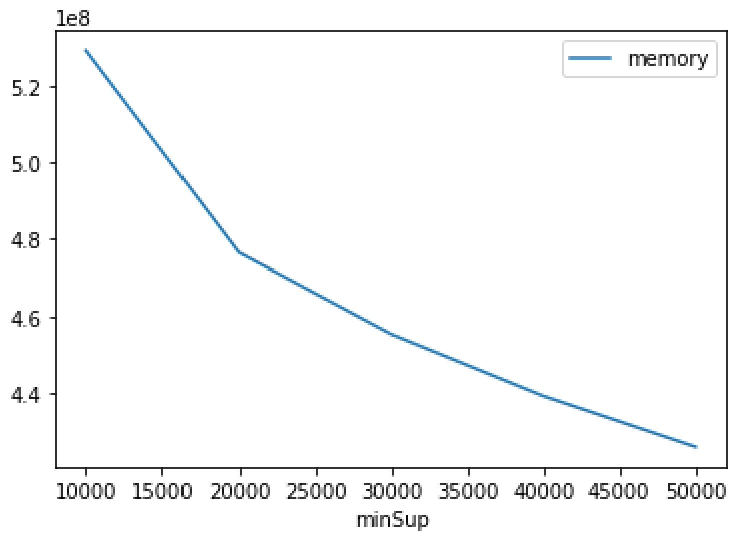
In [6]:
```
ab = plt.plotGraphsFromDataFrame(result)
ab.plotGraphsFromDataFrame() #drawPlots()
```



```
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
```