T10I4D200K

August 11, 2023

[1]:
```
import UPFPGrowth as upfp
import UPFPGrowthPlus as upfpp
import pandas as pd
inputFile = 'uncertain_Temporal_T10I4D200K.csv'
result = pd.DataFrame(columns=['algorithm', 'minSup', 'maxPer', 'patterns',␣
 ↪'runtime', 'memory'])
```

[2]:
```
algorithm = 'UPFPGrowth++'
minSup = [400, 500, 600, 700, 800, 900, 1000]
maxPer = 8000
for i in minSup:
    obj = upfpp.UPFPGrowthPlus(iFile=inputFile, minSup=i, maxPer=maxPer,␣
 ↪sep='\t')
    obj.startMine()
    result.loc[result.shape[0]] = [algorithm, i, maxPer, len(obj.
 ↪getPatterns()), obj.getRuntime(), obj.getMemoryUSS()]
    obj.printResults()
```

```
Periodic Frequent patterns were generated successfully using UPFPgrowth++
algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 609
Total number of generated false patterns: 202
Total Memory in USS: 1006804992
Total Memory in RSS 1065025536
Total ExecutionTime in ms: 64.34710168838501
Periodic Frequent patterns were generated successfully using UPFPgrowth++
algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 532
Total number of generated false patterns: 62
Total Memory in USS: 1006247936
Total Memory in RSS 1064468480
Total ExecutionTime in ms: 37.51975178718567
Periodic Frequent patterns were generated successfully using UPFPgrowth++
algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 478
Total number of generated false patterns: 23
Total Memory in USS: 991379456
Total Memory in RSS 1050189824
```

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Total ExecutionTime in ms: 30.614928483963013
Periodic Frequent patterns were generated successfully using UPFPgrowth++
algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 435
Total number of generated false patterns: 4
Total Memory in USS: 977100800
Total Memory in RSS 1035911168
Total ExecutionTime in ms: 24.866675853729248
Periodic Frequent patterns were generated successfully using UPFPgrowth++
algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 398
Total number of generated false patterns: 1
Total Memory in USS: 962265088
Total Memory in RSS 1021075456
Total ExecutionTime in ms: 23.8896701335907
Periodic Frequent patterns were generated successfully using UPFPgrowth++
algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 363
Total number of generated false patterns: 1
Total Memory in USS: 946683904
Total Memory in RSS 1005436928
Total ExecutionTime in ms: 22.86089038848877
Periodic Frequent patterns were generated successfully using UPFPgrowth++
algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 337
Total number of generated false patterns: 0
Total Memory in USS: 933785600
Total Memory in RSS 992595968
Total ExecutionTime in ms: 21.281518936157227
```

[3]:
```
print(result)
```

```
      algorithm  minSup  maxPer  patterns    runtime      memory
0  UPFPGrowth++     400    8000       609  64.347102  1006804992
1  UPFPGrowth++     500    8000       532  37.519752  1006247936
2  UPFPGrowth++     600    8000       478  30.614928   991379456
3  UPFPGrowth++     700    8000       435  24.866676   977100800
4  UPFPGrowth++     800    8000       398  23.889670   962265088
5  UPFPGrowth++     900    8000       363  22.860890   946683904
6  UPFPGrowth++    1000    8000       337  21.281519   933785600
```

[4]:
```
algorithm = 'UPFPGrowth'
minSup = [400, 500, 600, 700, 800, 900, 1000]
maxPer = 8000
for i in minSup:
    obj = upfp.UPFPGrowth(iFile=inputFile, minSup=i, maxPer=maxPer, sep='\t')
    obj.startMine()
```

```
    result.loc[result.shape[0]] = [algorithm, i, maxPer, len(obj.
↪getPatterns()), obj.getRuntime(), obj.getMemoryUSS()]
    obj.printResults()
```

```
Periodic frequent patterns were generated successfully using UPFP algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 610
Total number of False Patterns: 303
Total Memory in USS: 1001152512
Total Memory in RSS 1060397056
Total ExecutionTime in ms: 76.65591835975647
Periodic frequent patterns were generated successfully using UPFP algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 532
Total number of False Patterns: 113
Total Memory in USS: 990633984
Total Memory in RSS 1049882624
Total ExecutionTime in ms: 45.799009561538696
Periodic frequent patterns were generated successfully using UPFP algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 477
Total number of False Patterns: 58
Total Memory in USS: 976277504
Total Memory in RSS 1035530240
Total ExecutionTime in ms: 35.953229904174805
Periodic frequent patterns were generated successfully using UPFP algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 435
Total number of False Patterns: 10
Total Memory in USS: 962727936
Total Memory in RSS 1021984768
Total ExecutionTime in ms: 26.950753927230835
Periodic frequent patterns were generated successfully using UPFP algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 398
Total number of False Patterns: 3
Total Memory in USS: 948744192
Total Memory in RSS 1007996928
Total ExecutionTime in ms: 25.406779050827026
Periodic frequent patterns were generated successfully using UPFP algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 363
Total number of False Patterns: 2
Total Memory in USS: 934080512
Total Memory in RSS 993333248
Total ExecutionTime in ms: 23.03202986717224
Periodic frequent patterns were generated successfully using UPFP algorithm
Total number of  Uncertain Periodic-Frequent Patterns: 337
Total number of False Patterns: 0
Total Memory in USS: 921899008
Total Memory in RSS 981020672
Total ExecutionTime in ms: 22.09625244140625
```

[5]:
```
print(result)
```

```
       algorithm  minSup  maxPer  patterns    runtime      memory
0   UPFPGrowth++     400    8000       609  64.347102  1006804992
1   UPFPGrowth++     500    8000       532  37.519752  1006247936
2   UPFPGrowth++     600    8000       478  30.614928   991379456
3   UPFPGrowth++     700    8000       435  24.866676   977100800
4   UPFPGrowth++     800    8000       398  23.889670   962265088
5   UPFPGrowth++     900    8000       363  22.860890   946683904
6   UPFPGrowth++    1000    8000       337  21.281519   933785600
7     UPFPGrowth     400    8000       610  76.655918  1001152512
8     UPFPGrowth     500    8000       532  45.799010   990633984
9     UPFPGrowth     600    8000       477  35.953230   976277504
10    UPFPGrowth     700    8000       435  26.950754   962727936
11    UPFPGrowth     800    8000       398  25.406779   948744192
12    UPFPGrowth     900    8000       363  23.032030   934080512
13    UPFPGrowth    1000    8000       337  22.096252   921899008
```

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```