

# CS583 - Programming Assignment 1

Demo and code submission: around Sept 24, 2021

**Task:** Implement the MSApriori algorithm. You can use any programming language of your choosing.

**Input:** You will be given two input files in plain text.

1. The data file. Each line is a transaction and each item is represented with an integer number, e.g.,  
10, 50, 30, 40,  
1, 2, 4, 6, 8, 9, 10  
3, 4, 5  
7, 9, 20
2. The parameter file. It contains the MIS values of all items that have appeared in the data file:  
MIS(1) = 0.02  
MIS(2) = 0.04  
...  
MIS(rest) = 0.01  
SDC = 0.003

rest: all other items that are not given specific MIS values. SDC: support difference constraint.

**Output:** The output file should be of the following format, which must be followed exactly as we will use a program to grade your results. Note, the indentation in each line is not significant, but you must place the round brackets in the right places following the example below. No other symbols or punctuation marks should be used.

```
(Length-1 <number of length 1 frequent itemsets>
  <length-1 itemset 1>
  <length-1 itemset 3>
  ...
)
(Length-2 <number of length 2 frequent itemsets>
  <length-2 itemset 1>
  <length-2 itemset 3>
  ...
)
...
```

For example:

```
(Length-1 3
  (1)
  (2)
  (11)
)
(Length-2 2
  (1 2)
  (2 3)
)
```