You will answer the following questions found at the end of the relevant chapters of the textbook (Larose and Larose).

Important Notes:

* For principle question #2: use your own words to describe rule support and rule confidence, and describe the relationship between support and confidence. DO NOT write the formula.
* The hand-on exercises can be found at the end of this week’s tutorial document **EM-AA.pdf** (page 8-82 to 8-83). For these exercises, use the dataset *Transactions.sas7bdat* (data file in SAS format). A documentation for dataset can also be downloaded from the Blackboard homework page
* For some of the hands-on questions (i.e., (g) and a new (h) ), the specific requirements are specified as follows:

g. In addition to the original question (g) specified in the tutorial exercise, also describe the rule with the highest lift value using this format: IF *antecedent*, THEN *consequent*.

h. (*added question*) Run another Association Analysis by using a minimum confidence of 30 percent.  
• What is the rule that has the highest lift?  
• What is the rule that has the highest confident % AND with a lift larger than 1.5?

Hints about hands-on:

* For the hands-on questions, use the Statistics Plot, Rule Table, and Rule Description table in SAS EM to find the relevant information.

|  |  |  |
| --- | --- | --- |
| **Chapter** | **Question #** | **Points** |
| 12 (Association Rules) | 1 | .2 |
|  | 2 | .2 |
|  | 3 | .2 |
|  | *Hands-on questions: see the requirements above* |  |
|  | a | .1 |
|  | b | .1 |
|  | c | .1 |
|  | d | .1 |
|  | e | .1 |
|  | f | .1 |
|  | g | .4 |
|  | h | .4 |

This homework is worth 2.0 points (out of 100 points).

Due date: see syllabus section **Tentative Lecture Outline**

Requirements (Important! Read carefully):

* Use MS Word to build your answers; submit a Word file to Blackboard.
* For non-hands-on questions, elaborate your answers as much as you can. Include and elaborate your rationale if asked, and the main steps taken if relevant.
* **For hands-on questions, you are required to use SAS EM**. Do not only provide the short answer to the question. Besides the short answer, you are required to paste the appropriate screenshots of the relevant steps in SAS EM, including but not limited to, diagram, interface, results output, plot/chart, etc., wherever appropriate. You are advised to err on the side completeness in including screenshots, typically the more the better, as they will allow the Professor or TA to evaluate your competence with SAS.
  + You will receive substantial deduction in points if you only include a short answer, when it is indeed necessary to see relevant screenshots of your EM project and/or process for your Professor or TA to evaluate how you obtained the result in SAS EM.