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

*Note*:

* For the hands-on problems, carefully read the instructions above the questions.
* Even though the questions didn’t ask for it, you are required to properly set up the project, assign roles and levels to the relevant variables, incorporate necessary EDA and Preprocessing processes, and provide detailed reports for: StatExplore, Graph Explore, dealing with missing values if any, Partition, and Transform Variables if deemed necessary.
* For hands-on question #12, typology of the model refers to: How many and what layers are included in the model? How many and what neurons are included in each layer?
* For hands-on question #14, instead of comparing the neural network model with the CART and C4.5 trees, compare it with your *Best Decision Tree*.

|  |  |  |
| --- | --- | --- |
| **Chapter** | **Question #** | **Points** |
| 9 | 2 | 0.6 |
|  | 4 | 0.4 |
|  | *Hands-on (use dataset Churn)* | |
|  | 12 | 0.7 |
|  | 14 | 0.8 |

This homework is worth 2.5 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.