| CSC 124 Project Form | |
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| Project Number | Project Number 3 |
| Project Name | Market Basket Analysis |
| Project Filenames | LastName\_Project\_3\_RCode |
| Points | 100 points for the project |
| Assistance | This is an individual assignment. You should not request or provide assistance from/to others. However, if you need clarification or are unable to proceed, contact your instructor. |
| Project Description | Students will use the concepts learned in this course to analyze the shopping baskets of customers for a certain period of time. The dataset (OnlineShopping.xlsx) is provided in Brightspace. Copy the original dataset (OnlineShopping) into a new one called myOnlineShopping. |
| Tasks | **Create R code to answer the following questions. Also create a diagram for each.**   * What time do people often purchase online? * How many items each customer buy? * What are the top 10 best sellers?   **Apply the Apriori algorithm to mine frequent itemsets and association rules. (**First, you need to transform the data from the dataframe format into transactions. You only need item transactions, do not need customerID and Date columns, so remove those. Use a support of at least 0.1% and confidence at least 80%. Sort the rules by decreasing confidence).   * What items are bought together? * Create the item frequency plot. * List the top 10 rules.   **Write a few sentence to interpret the online shopping.** For example, 95% of customer who bought books also bought reading lights. 100% of customer who bought black tea also bought organic sugar packs. |
| Deliverable I | **A Notepad file:** The file should include only the R code to get the answers.  **Note:** Remember to install and load packages necessary packages in R. |
| Deliverable II | **A Document (docx or pdf)**  The file should a cover page that includes the names of the students completing the project.  Write the questions/answers/diagrams in an organized way.  **Note**:   * There will be a **20 point deduction** if a student’s name is included on the title page but the student *did not participate* in completing the project. * There will be a **10 point deduction** if the title page is omitted. * Each student is responsible for proofing the title page and making sure the title page is included in the project folder. |
| Upload Instructions | Submit on Brightspace |