

Please find below SMDM Project instructions:

- You have to **submit in total 2 files** :
 1. **Answer Report:** In this, you need to submit all the answers to all the questions in a sequential manner. **It should include a detailed explanation of the approach used, insights, inferences, and all outputs of codes like graphs, tables, etc.** Your report should **not** be filled with codes. You will be evaluated based on the business report only. Hence please ensure that your business report is detailed and includes everything apart from the code. **THE REPORT HAS TO BE STRICTLY SUBMITTED IN A PDF/DOC FORMAT. ANY OTHER FORMAT WILL NOT BE CONSIDERED FOR GRADING. 6 Marks are allotted for the "Quality of Business Report". (This will contain report of both the problems(Problem 1 & 2)**
 2. **Jupyter Notebook file:** This is a must and will be used for reference while evaluating
- Please ensure timely submission as a post-deadline assignment will not be accepted.

Problem 1

Analysts are required to explore data and reflect on the insights. Clear writing skill is an integral part of a good report. Note that the explanations must be such that readers with minimum knowledge of analytics is able to grasp the insight.

Austo Motor Company is a leading car manufacturer specializing in SUV, Sedan, and Hatchback models. In its recent board meeting, concerns were raised by the members on the efficiency of the marketing campaign currently being used. The board decides to rope in an analytics professional to improve the existing campaign.

1. **You as an analyst have been tasked with performing a thorough analysis of the data and coming up with insights to improve the marketing campaign.**

The instructions below are given to help you complete the project –

Dataset - [Link](#)

A. What is the important technical information about the dataset that a database administrator would be interested in? (Hint: Information about the size of the dataset and the nature of the variables)

B. Take a critical look at the data and do a preliminary analysis of the variables. Do a quality check of the data so that the variables are consistent. Are there any discrepancies present in the data? If yes, perform preliminary treatment of data.

C. Explore all the features of the data separately by using appropriate visualizations and draw insights that can be utilized by the business.

D. Understanding the relationships among the variables in the dataset is crucial for every analytical project. Perform analysis on the data fields to gain deeper insights. Comment on your understanding of the data.

E. Employees working on the existing marketing campaign have made the following remarks. Based on the data and your analysis state whether you agree or disagree with their observations. Justify your answer Based on the data available.

E1) Steve Roger says “Men prefer SUV by a large margin, compared to the women”

E2) Ned Stark believes that a salaried person is more likely to buy a Sedan.

E3) Sheldon Cooper does not believe any of them; he claims that a salaried male is an easier target for a SUV sale over a Sedan Sale.

F. From the given data, comment on the amount spent on purchasing automobiles across the following categories. Comment on how a Business can utilize the results from this exercise. Give justification along with presenting metrics/charts used for arriving at the conclusions.

Give justification along with presenting metrics/charts used for arriving at the conclusions.

F1) Gender

F2) Personal_loan

G. From the current data set comment if having a working partner leads to the purchase of a higher-priced car.

H. The main objective of this analysis is to devise an improved marketing strategy to send targeted information to different groups of potential buyers present in the data. For the current analysis use the Gender and Marital_status - fields to arrive at groups with similar purchase history.

Problem 2

A bank can generate revenue in a variety of ways, such as charging interest, transaction fees and financial advice. Interest charged on the capital that the bank lends out to customers has historically been the most significant method of revenue generation. The bank earns profits from the difference between the interest rates it pays on deposits and other sources of funds, and the interest rates it charges on the loans it gives out.

GODIGT Bank is a mid-sized private bank that deals in all kinds of banking products, such as savings accounts, current accounts, investment products, etc. among other offerings. The bank also cross-sells asset products to its existing customers through personal loans, auto loans, business loans, etc., and to do so they use various communication methods including cold calling, e-mails, recommendations on the net banking, mobile banking, etc.

GODIGT Bank also has a set of customers who were given credit cards based on risk policy and customer category class but due to huge competition in the credit card market, the bank is observing high attrition in credit card spending. The bank makes money only if customers spend more on credit cards. Given the attrition, the Bank wants to revisit its credit card policy and make sure that the card given to the customer is the right credit card. The bank will make a profit only through the customers that show higher intent towards a recommended credit card. (Higher intent means consumers would want to use the card and hence not be attrite.)

Problem 2 Question: (Analyze the [dataset](#) and list down the top 5 important variables, along with the business justifications. (10 Points) Data Dictionary - [Link](#))

Criteria	Points
What is the important technical information about the dataset that a database administrator would be interested in? (Hint: Information about the size of the dataset and the nature of the variables)	2
Take a critical look at the data and do a preliminary analysis of the variables. Do a quality check of the data so that the variables are consistent. Are there any discrepancies present in the data? If yes, perform preliminary treatment of data.	8
Explore all the features of the data separately by using appropriate visualizations and draw insights that can be utilized by the business.	8

Criteria	Points
Understanding the relationships among the variables in the dataset is crucial for every analytical project. Perform analysis on the data fields to gain deeper insights. Comment on your understanding of the data.	8
Employees working on the existing marketing campaign have made the following remarks. Based on the data and your analysis state whether you agree or disagree with their observations. Justify your answer Based on the data available. ***E1) Steve Roger says “Men prefer SUV by a large margin, compared to the women” ***E2) Ned Stark believes that a salaried person is more likely to buy a Sedan. ***E3) Sheldon Cooper does not believe any of them; he claims that a salaried male is an easier target for a SUV sale over a Sedan Sale.	6
F. From the given data, comment on the amount spent on purchasing automobiles across the following categories. Comment on how a Business can utilize the results from this exercise. Give justification along with presenting metrics/charts used for arriving at the conclusions. Give justification along with presenting metrics/charts used for arriving at the conclusions. ***F1) Gender ***F2) Personal_loan	4
From the current data set comment if having a working partner leads to purchase of a higher priced car.	2
The main objective of this analysis is to devise an improved marketing strategy to send targeted information to different groups of potential buyers present in the data. For the current analysis use Gender and Marital_status - fields to arrive at groups with similar purchase history.	6
Framing An Analytics Problem Analyse the dataset and list down the top 5 important variables, along with the business justifications.	10
Quality of Business Report (Please refer to the Evaluation Guidelines for Business report checklist. Marks in this criteria are at the moderator's discretion)	6

