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Course Content

SMDM Project

Submission type	:	File Upload
Due Date	:	Sep 16, 2020, 11:59 PM
Total Score	:	60
Available from	:	Sep 16, 2020, 9:00 AM
Your Score	:	33/60

Description

Scoring guide (Rubric) - SMDM PROJECT

Evaluated

Criteria	Ratings	Points
1.1 Use methods of descriptive statistics to summarize data. Which Region and which Channel seems to spend more? Which Region and which Channel seems to spend less?	Hotel Channel is spending the highest and Retail Channel is spending the least Other region is spending the highest and Oporto Region is spending the least	2/4
1.2 There are 6 different varieties of items are considered. Do all varieties show similar behaviour across Region and Channel?	To check the behavior of 6 different varieties, we will subset the dataset with respect to region and channel and consider the descriptive statistics	1/4
1.3 On the basis of the descriptive measure of variability, which item shows the most inconsistent behaviour? Which items shows the	Should be done with CoV. Delicatessen shows the most inconsistent behaviour and Fresh shows the least	0/4

Criteria	inconsistent behaviour Ratings	Points
1.4 Are there any outliers in the data?	Good Work!	4/4
1.5 On the basis of this report, what are the recommendations?	Good Work!	4/4
2.1. For this data, construct the following contingency tables (Keep Gender as row variable) 2.1.1. Gender and Major 2.1.2. Gender and Grad Intention 2.1.3. Gender and Employment 2.1.4. Gender and Computer	Good Work!	4/4
2.2. Assume that the sample is a representative of the population of CMSU. Based on the data, answer the following question: What is the probability that a randomly selected CMSU student will be male? What is the probability that a randomly selected CMSU student will be female?	Good Work!	4/4
2.3 Assume that the sample is a representative of the population of CMSU. Based on the data, answer the following question: Find the conditional probability of different majors among the male students in CMSU. Find the conditional probability of different majors	Incorrect calculations. Need to complete the correct calculations.	0/4

among the female students of

Criteria

Ratings

Points

2.4 Assume that the sample is a representative of the population of CMSU. Based on the data, answer the following question: a) Find the probability That a randomly chosen student is a male and intends to graduate. b) Find the probability that a randomly selected student is a female and does NOT have a laptop.

Let the event that a randomly chosen students is Male be denoted by M The event that a randomly chosen student Intends to graduate be denoted by G Prob (Male AND Intends to graduate) = $P(M \cap G)$ From the contingency table Gender and Grad Intention, there are 17 male students who intend to graduate Hence $P(M \cap G) = 17 / 62 = 0.274$ -----
 ----- Let the event that a randomly chosen students is Female be denoted by F The event that a randomly chosen student has a laptop be denoted by L Hence the event that a randomly chosen student does not have a laptop be denoted by Lc Prob(Female AND Does not have a laptop) = $P(F \cap Lc)$ From the contingency table gender and computer the number of female students not having a laptop is $2 + 2 = 4$. (having desktops and tablets) Hence $P(F \cap Lc) = 4 / 62 = 0.06$

0/4

Criteria	Ratings	Points
<p>2.5 Assume that the sample is a representative of the population of CMSU. Based on the data, answer the following question: a) Find the probability that a randomly chosen student is either a male or has a full-time employment? b) Find the conditional probability that given a female student is randomly chosen, she is majoring in international business or management.</p>	<p>2.5.a) Let the event that a randomly chosen students is Male be denoted by M Let the event that a randomly chosen students has full-time employment be denoted by E $\text{Prob}(\text{Male OR full-time employment}) = P(M \cup E) = P(M) + P(E) - P(M \cap E)$ Where $(M \cap E)$ denotes the event that a randomly chosen student is a male AND has fulltime employment. $P(M) = 29/62 = 0.468$ $P(E) = 10/62 = 0.16$ $P(M \cap E) = 7/62 = 0.11$ Hence $P(M \cup E) = P(M) + P(E) - P(M \cap E) = 0.468 + 0.16 - 0.11 = 0.518$</p>	2/4
<p>2.6 Construct a contingency table of Gender and Intent to Graduate at 2 levels (Yes/No). The Undecided students are not considered now and the table is a 2x2 table. Do you think graduate intention and being female are independent events?</p>	<p>Please provide the cross tab in the report. Provide the conclusion with facts.</p>	1/4

Criteria	Ratings	Points
<p>2.7 Note that there are four numerical (continuous) variables in the data set, GPA, Salary, Spending and Text Messages. Answer the following questions based on the data a) If a student is chosen randomly, what is the probability that his/her GPA is less than 3? b) Find conditional probability that a randomly selected male earns 50 or more. Find conditional probability that a randomly selected female earns 50 or more.</p>	Good Work!	4/4
<p>2.8 Note that there are four numerical (continuous) variables in the data set, GPA, Salary, Spending and Text Messages. For each of them comment whether they follow a normal distribution. Write a note summarizing your conclusions.</p>	Good Work!	4/4
<p>3.1 Do you think there is evidence that mean moisture contents in both types of shingles are within the permissible limits? State your conclusions clearly showing all steps.</p>	<p>To check whether the mean moisture control for A shingles is within permissible limits, the following null and alternative hypotheses are formulated $H_0 \leq 0.35$ $H_A > 0.35$ ----- ----- For the B shingles, the null and alternative hypothesis to test whether the population mean moisture content is less than 0.35 pound per 100 square feet is given: $H_0 \leq 0.35$ $H_A > 0.35$</p>	0/4

Criteria	Ratings	Points
3.2 Do you think that the population means for shingles A and B are equal? Form the hypothesis and conduct the test of the hypothesis. What assumption do you need to check before the test for equality of means is performed?	Null hypothesis states that the population means of Shingles A and B are equal, X Alternative hypothesis states that the population means of Shingles A and B are not equal, $H_0: \mu_A = \mu_B$ $H_A: \mu_A \neq \mu_B$	0/4
Please reflect on all that you learnt and fill this reflection report - https://forms.gle/G8Q6dgVEiuXj5Uoo6		0
Points		33/60

Submitted Assignment



M02-SMDM-W3-Project-Report-By-Shreyansh.pdf



 Project SMDM By Shreyansh.ipynb

Submitted at Sat, Sep 12, 2020

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