Graded Homework #3: Part 1

Due Apr 15 at 11:59pm **Points** 60 **Questions** 12

Available Mar 27 at 8am - Apr 15 at 11:59pm 20 days Time Limit None

Instructions

Graded Homework #3 - Part 1 covers the topics in Weeks 8, 9, 10, 11 and 12 and is worth 6% of your overall grade. You may work on the homework for as long as you like within the given window. Please note that your answers will automatically save as you key them. As long as you do not click submit, you can enter and exit the assignment as many times as necessary during the time period that it is available. Again, please note, you should only click "submit" when you are completely finished with the assignment and ready to submit it for grading.

Also, please remember that you are to complete this assignment on your own. Any help given or received constitutes cheating. If you have any general questions about the assignment, please post it to the Piazza board. If your question involves specific references to the answer to a question or questions, please be sure to mark your post as private.

Good luck!

Attempt History

Att	tempt	Time	Score
LATEST Att	empt 1	3 minutes	55 out of 60

(!) Correct answers are hidden.

Score for this quiz: **55** out of 60 Submitted Apr 7 at 11:05pm This attempt took 3 minutes.

Question 1	5 / 5 pts
The "Value" factor belongs to which of the following category of factors?	
Macroeconomic Factors	

Statistical Factors		
Fundamental Factors		

In Factor Regression, what does the intercept tell us? A. Fund's excess return above the risk free rate B. Fund manager's performance C. Quantifies the risk of the fund D. The traditional market beta

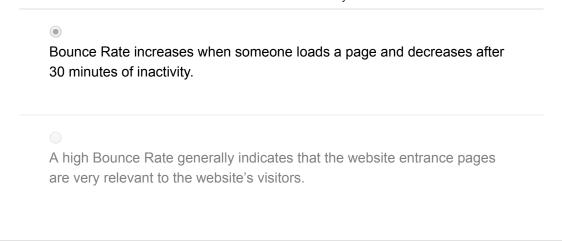
Incorrect

Question 3 0 / 5 pts

Which of the following statements **is correct** with respect to Bounce Rate?

Bounce Rate gives an indication of the proportion of visitors who did not interact with the website.

Bounce Rate tells us how long, on average, visitors are staying on our website.



5 / 5 pts **Question 4** In which scenario will you not be able to run a successful A/B test on a landing page of a website? Changing website's background color to attract more visitors, with all else unchanged Enlarging the website's sign-up button to increase the new leads, with all else unchanged Redesigning the whole website at once, including logos, images, background color, headings and button designs In all cases above, the website can be improved through A/B testing

Question 5 5 / 5 pts

The objective of Conversion Rate Optimization (CRO) is to:

	Increase number of website visitors
	Increase website sales
	Enhance engagement
•	All the above

A website that uses Google Analytics wants to know the percentage of visitors that do not interact with the website. Which metric should be used? Page per sessions Pageviews Bounce Rate

The following questions can be answered using case study: Chase

Question 7 5 / 5 pts

In the Chase case, Chase segmented customers based on the types of rewards they preferred. Which segmentation strategy does Chase use?

•	Behavioural method
	Demographic method
	Psychographic method

A complete economics of credit card transaction includes: Card Issuer; Merchant Acquirer; Merchant Card Issuer; Cardholder; Merchant Issuer; Merchant Card Issuer; Cardholder; Merchant Acquirer; Credit Card Network Card Issuer; Cardholder; Merchant; Merchant Acquirer; Credit Card Network

The following questions are based on the **Advertising** dataset (**Advertising_Updated.csv**). The sales are in thousands of units, while the advertising budgets (TV, Radio, Newspaper) are in thousands of dollars.

Load the data as following:

```
ad = read.csv('P:\\6203 TA\\Advertising_Updated.csv')
```

Run the following linear regression model:

```
lm <- lm(Sales~., data=ad)</pre>
```

Question 9 5 / 5 pts

Now that we have our linear regression model, let's try to make a prediction for the sales given a new set of advertising budgets as follows:

new.dat <- data.frame(TV=200, Radio=10, Newspaper=20)</pre>

You are required to report the predicted sales as well as the lower and upper bound for the 95% **prediction** interval. What will you report?

The predicted sales value is \$13,543.06, with a 95% prediction interval of \$10,210.25 and \$16,875.87.

The predicted sales value is \$13,956.37, with a 95% prediction interval of \$10,613.31 and \$17,299.43.

The predicted sales value is \$15,852.04, with a 95% prediction interval of \$12,508.44 and \$19,195.64.

The predicted sales value is \$9,379.90 with a 95% prediction interval of \$6,038.61 and \$12,721.20.

Question 10 5 / 5 pts

Which form(s) of media contribute (are related) to sales?

O TV
Newspaper
TV and Newspaper
TV and Radio
TV, Radio, and Newspaper

A popular vegan restaurant is known to have long waiting lines from 12-2 pm in the afternoon. Recently, due to an increase in the demand, the amount of time that customers wait in the queue has increased. The manager does not want to lose customers due to this and hence decides to set up another counter to increase the overall service rate. The arrival rate has increased to 58 customers/hour. The current service rate with 4 counters in the restaurant is 60 customers/hour.

Question 11	5 / 5 pts
What is the average amount of time customers will wait in line current scenario? (in minutes)	under the
19 minutes	
25 minutes	
29 minutes	
33 minutes	

Question 12	5 / 5 pts
On average, how many customers will be waiting in the queue manager introduces another counter? Total service rate with 5 65 customers/hour. (Round to the nearest integer)	
5	
7	
9	
11	

Quiz Score: 55 out of 60