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# Unit 10 - Week 8

Register for Certification exam

## Course outline

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## Assignment 8

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2019-03-27, 23:59 IST.**

A clinical trial is run to compare weight loss programs and participants are randomly assigned to one of the comparison programs and are counseled on the details of the assigned program. Participants follow the assigned program for 8 weeks. The outcome of interest is weight loss, defined as the difference in weight measured at the start of the study (baseline) and weight measured at the end of the study (8 weeks), measured in pounds.

Three popular weight loss programs are considered. The first is a low calorie diet. The second is a low fat diet and the third is a low carbohydrate diet. For comparison purposes, a fourth group is considered as a control group. Participants in the fourth group are told that they are participating in a study of healthy behaviors with weight loss only one component of interest. The control group is included here to assess the placebo effect (i.e., weight loss due to simply participating in the study). A total of twenty patients agree to participate in the study and are randomly assigned to one of the four diet groups. Weights are measured at baseline and patients are counseled on the proper implementation of the assigned diet (with the exception of the control group). After 8 weeks, each patient's weight is again measured and the difference in weights is computed by subtracting the 8 week weight from the baseline weight. Positive differences indicate weight losses and negative differences indicate weight gains. For interpretation purposes, we refer to the differences in weights as weight losses and the observed weight losses are shown below. Based on the data, develop the ANOVA table and answer the following questions.

	Low Calorie	Low fat	Low carbohydrate	Control
	8	2	3	2
	9	4	5	2
	6	3	4	-1
	7	5	2	0
	3	1	3	3

1) The SST (sum of square between treatment) value for the experiment is **2 points**

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Week 10	Accepted Answers: 75.8
Week 11	
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2) What is the value of SSE (Sum of square of the Error) for the experiment **2 points**

47.4  
 54.8  
 69.7  
 75.9

**No, the answer is incorrect.**  
**Score: 0**

**Accepted Answers:**  
47.4

3) Find out the value of the degree of freedom of the errors. **2 points**

8  
 10  
 12  
 16

**No, the answer is incorrect.**  
**Score: 0**

**Accepted Answers:**  
16

4) Calculate the F-value for the ANOVA test. **2 points**

5.98  
 6.48  
 8.43  
 10.26

**No, the answer is incorrect.**  
**Score: 0**

**Accepted Answers:**  
8.43

5) Based upon the ANOVA, what among the following we can suggest? **2 points**

There is a no difference in mean weight loss among the four diets.  
 There is a difference in mean weight loss among the four diets.

**No, the answer is incorrect.**  
**Score: 0**

**Accepted Answers:**  
*There is a difference in mean weight loss among the four diets.*

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