STA 441s 2024 Quiz 7

1. (4 points) In your analysis of the Sales Data, you fit a model with *unequal* slopes. You tested whether the slope of the line for software package three (yes, 3) is significantly different from zero at the 0.05 level. Fill in the table below.

t, χ^2 or F Statistic (a number)	p-value (a number or range)	Reject H_0? (Yes or No)	Statistically Significant? (Yes or No)

On your printout, circle the test statistic and write "Question 1" beside it.

2. In your analysis of the Diversity data, you arrived at a model with four explanatory variables, each of which was significantly related to job satisfaction when controlling for the other ones. This was based on the exploratory data.

   (a) (1 point) What were the four variables?

   (b) (1 point) You then tested these four variables on the replication sample, with a Bonferroni correction. What p-value is necessary for statistical significance at the *joint* 0.05 level? The answer is a number between zero and one.

   (c) (2 points) Please fill in the table below.

Variable	t or F Statistic (a number)	Uncorrected p-value (a number or range)	Significant with Bonferroni Correction? (Yes or No)

   On your printout, circle the test statistics and p-values. Write "Question 2" beside them.

   (d) (2 points) In plain, non-statistical language, what do you conclude about visible minority status and job satisfaction? Base your conclusions on what replicated, but do not mention the exploration-replication strategy.