MSBA 250 — Applied Business Analytics

University of the Pacific
Spring 2024
Assignment 6 Solutions

Instructions:

This problem set has 2 questions. The full credit is 20.

Problem 1 (10 points):

Suppose that a car-rental agency offers insurance for a week that costs $100. A minor fender bender will cost $3,500, where a major accident might cost $16,000 in repairs. Without the insurance, you would be personally liable for any damages. What should you do? Clearly, there are two decision alternatives: take the insurance, or do not take the insurance. The uncertain consequences, or events that might occur, are that you would not be involved in an accident, that you would be involved in a fender bender, or that you would be involved in a major accident. Develop a payoff table for this situation. What decision should you make using each of the following strategies?

(a) Aggressive strategy (3 points)
(b) Conservative strategy (3 points)
(c) Opportunity-loss strategy (4 points)

Car Insurance

		Costs		
		No Accident	**Minor**	**Major**
	Take Insurance	$100.00	$100.00	$100.00
	Don't Take	$0.00	$3,500.00	$16,000.00

a. **Aggressive** $100.00 — $0.00 — **Don't take insurance**

b. **Conservative** $100.00 — $16,000.00 — **Take insurance**

c. **Opportunity Loss**

	No Accident	Minor	Major	Max	
Take Insurance	$100.00	$0.00	$0.00	$100.00	**Take insurance**
Don't Take	$0.00	$3,400.00	$15,900.00	$15,900.00	

Problem 2:

The graphs should be clear, and the discussion should be comprehensive.

Problem 3:

The regressions should be conducted from different models and compare the R-squared value to choose the most appropriate regression model. And the discussion should be comprehensive.