

1. Consider model $y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6 + \epsilon$ with $y, x_1, x_2, x_3, x_4, x_5, x_6$ stored in Table94.txt.

(1) Find SSE, DF and MSE

(2) Find a 90% confidence interval for β_4

(3) With $x_{01} = 1, x_{02} = 5, x_{03} = 5, x_{04} = 5, x_{05} = 0$ and $x_{06} = -0.5$, find a 90% prediction interval for $y(x_0)$.

2. Consider the model in 1 and $H_0 : \beta_i = 0$ for all $i = 1, 3$ versus $H_a : \beta_i \neq 0$ for some $i = 1, 3$.

(1) Find SSE_r from the model reduced by H_0

(2) Complete ANOVA table for H_0 .

Source	SS	DF	MS	F	p
Hypothesis (N)	_____	___	_____	_____	_____
Error (D)	_____	___	_____		
Error (R)	_____	___			

(3) In the reduced model find a 90% confidence interval for σ^2