

MA2261 - DLI, Linear Statistical Models, Year 2022-2023

Solutions of exercises for feedback class 5
(Note: the exercise number refers to the workbook)

EXERCISE 3.6 d)

d) We have $SST = S_{yy} = 177.6$

$$SSE = RSS = 17.6, \quad SSM = SST - SSE = 160$$

$$MSE = \frac{SSE}{n-2} = 2.2, \quad MSM = SSM = 160$$

$$F = \frac{MSM}{MSE} = 72.73$$

In summary, the ANOVA table is

	Source	df	SS	MS	F
SSM	Regression (Model)	1	160	160	72.73
SSE	Error (Residual)	8	17.6	2.2	
SST	Total	9	177.6		

EXERCISE 3.8

From eye inspection, the normal Q-Q plot looks reasonably linear and the plot of residuals versus fitted values shows no patterns. Hence we can reasonably conclude that the simple linear regression assumptions are satisfied.