STA 110B Spring 1998

Quiz 10
Week of April 13, 1998

1) In an advertisement (source the Columbus Dispatch June 8, 1993), Emerald health care providers claim that the cost of their plan has risen more slowly than overall costs. For the years 1986 to 1992, the difference (DIFF) between claim costs of the Emerald health care plan and the medical Consumer Price Index is calculated (DIFF = Emerald costs - CPI). A plot of this difference against year (YEAR) appears linear with a general downward trend. Regression output for the regression of DIFF on YEAR follows:

Model Equation
DIFF = 7339.75 - 3.6679 YEAR

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Stat	Prob > F
Model	1	376.6889	376.6889	7.3475	0.0422
Error	5	256.3396	51.2679		
C Total	6	633.0286			

Parameter Estimates

Variable	DF	Estimate	Std Error	T Stat	Prob >|T|	Tolerance	Var Inflation
INTERCEPT	1	7339.7536	2691.4039	2.7271	0.0414	.	0
YEAR	1	-3.6679	1.3531	-2.7106	0.0422	1.0000	1.0000

a) Construct a 95% confidence interval for the slope.

b) Is the slope discernible from zero at the 5% error level? Why/why not?

c) What does this say about Emerald's claim?