Chapter 4-1 Practice

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Population Density and Crime

1. Estimate the following model using the `crime2` dataset. Name your model `crime.lm1`.

$$\begin{aligned} ln(CrimeRate) = \ & \beta_0 + \beta_1 ln(LawExpendPC) + \beta_2 ln(IncomePC) + \beta_3 ln(PopulationDensity) + \\ & \beta_4 West + \beta 5 Northeast + \beta_6 South + u \end{aligned}$$

2. Test whether population density significantly impacts crime at the 0.05 level. Report the critical value for the test.
3. Construct a 99% confidence interval for the expenditure elasticity of crime rate using .