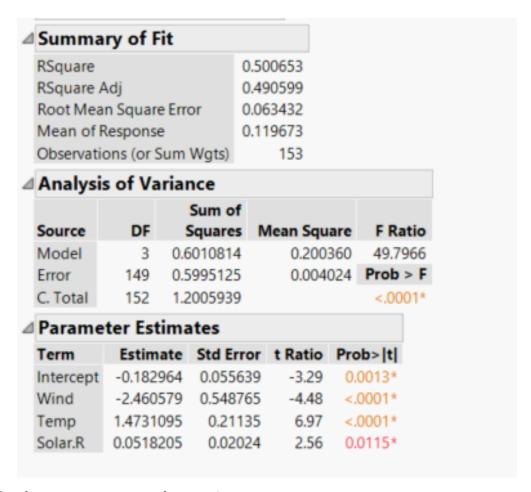
1. New York Air Quality Measurement: The daily air quality in New York was measured from May to September 1973. To see the effect of different variables on Ozone layer, linear regression was used. The JMP output shows the linear regression between wind, temprature, solar radiation and Ozone.



Use the output to answer the questions.

- (a) Write out the model with the appropriate estimates.
- (b) For the linear relationship, find r, the sample correlation coeffecient and \mathbb{R}^2 , the coeffecient of determination and interpret \mathbb{R}^2

Fall 2019 1

- (c) Provide an estimate for σ^2
- (d) Provide an estimate for the variance of the coefficient of wind.
- (e) Calculate and interret the 95% two-sided confidence interval for the coefficient of $\underline{\text{wind}}$

(f) Conduct a formal hypothesis test at the $\alpha = 0.05$ significance level to determine if there is significance relationship between air quality (y) and solar radiation (x_3) , holding depth constant.

Fall 2019 2