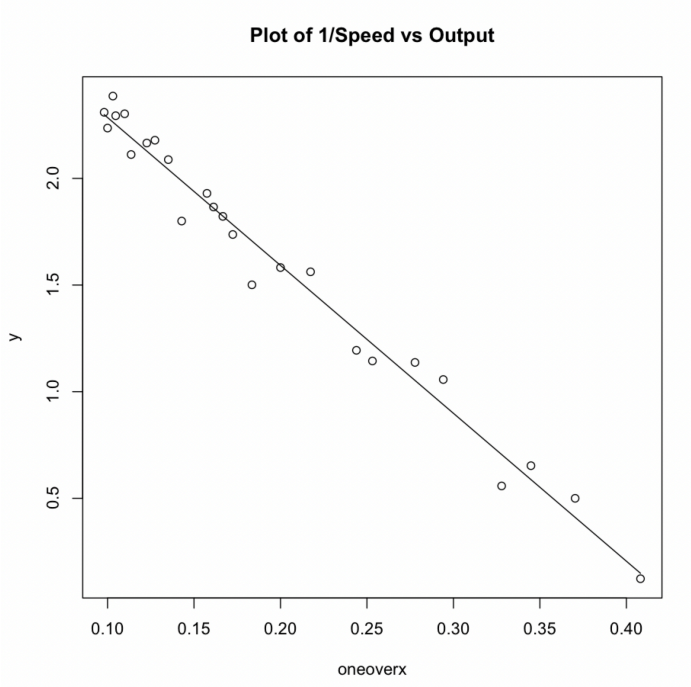
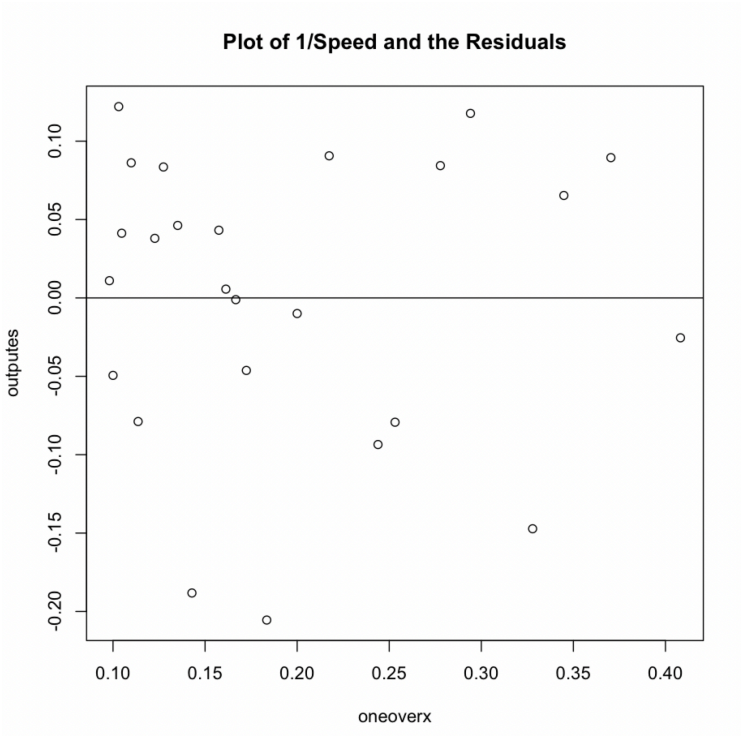
(1) Fit a straight line to the data with y=output and x=1/(wind speed).

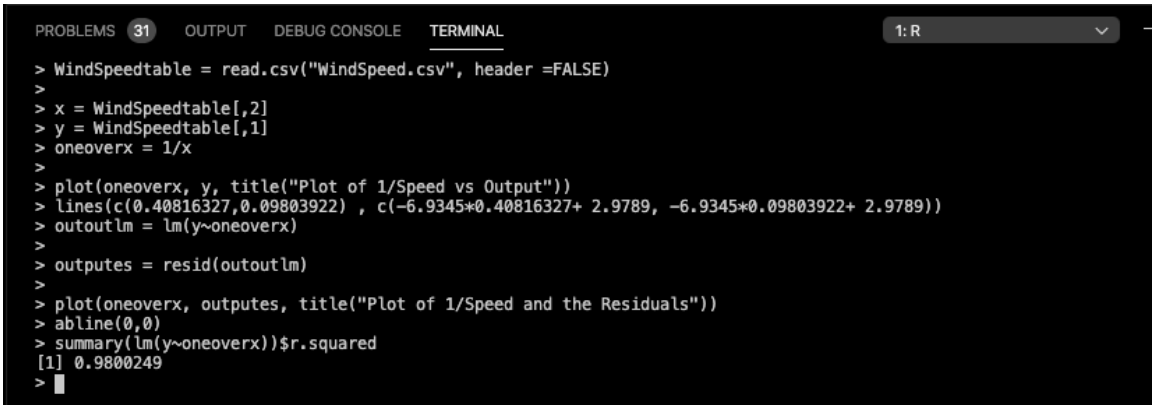


(2) Produce plots of the residuals (from your fitted model in (1)) and use them to comment on whether the model assumptions seem reasonable.



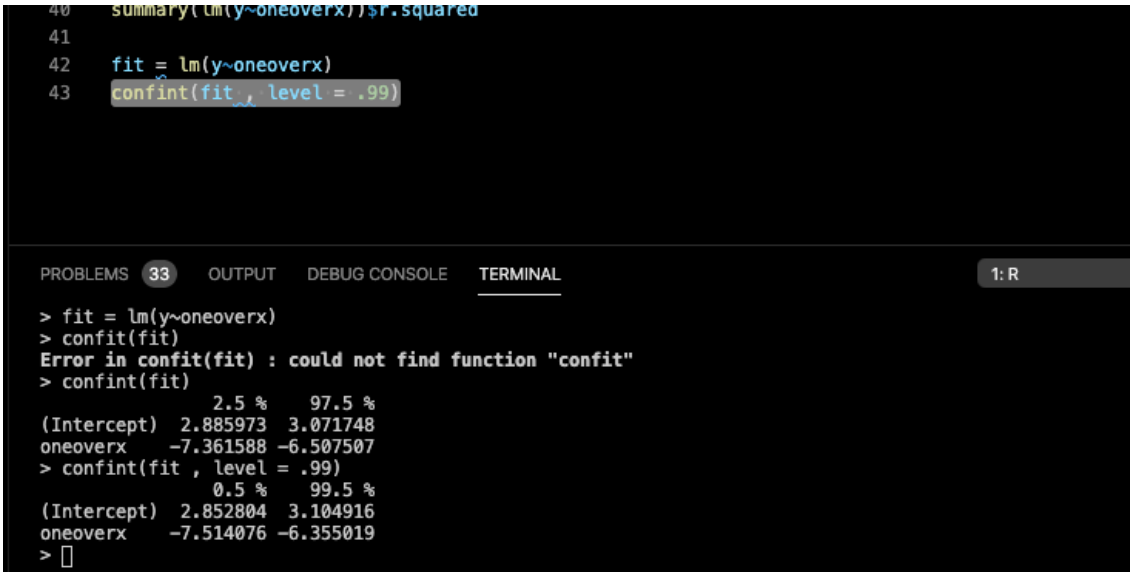
The plot of the residuals here is very random and does suggest that there is a relationship between y and 1/x

(3) Find the coefficient of determination and interpret it.



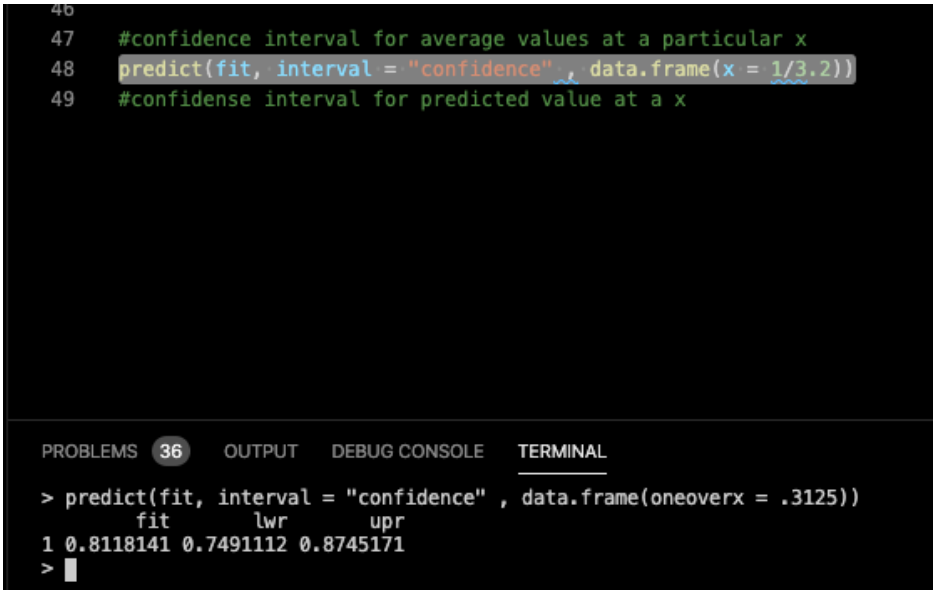
Here we see that the CoD is .98002 and since the CoD is just the proportion of of the variance in y that is predicted by the model, we can say that the model does fit and predict the data well.

(4) Find a 99% confidence interval for the slope of your model in (1).



Here is showed two confidence intervals (95 and 99) to show that there is an increase in the interval when we look for more confidence. With a 99% confidence interval our slope will be be between the values of [-7.5140 , -6.3550] which is true as our slope is -6.9345

(5) Find a 95% confidence interval for average output when wind speed is 3.2.



(6) Suppose the wind speed at a particular wind mill is 9.05. Find an interval in which you're 95% sure the output of this wind mill will be.