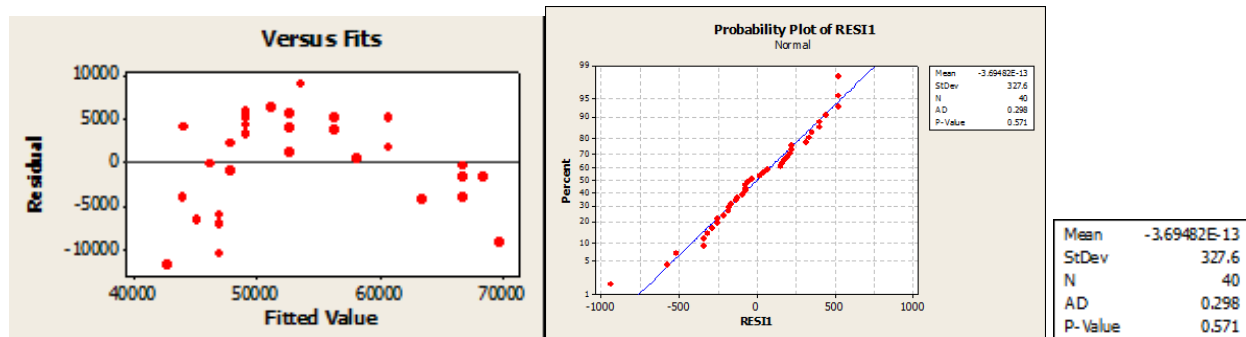# ISyE 4031 Regression and Forecasting
## Homework 4
## Due February 10, 2016

1. Consider the copier service time data given in Table 3.7, page 126.  Solve the simple linear regression model by using Minitab or R, <u>print and submit</u> the output.

2. Solve Exercise 3.25, page 132, by using the output that you produced in problem (1).

3. Solve Exercise 3.29, page 132, by using the output that you produced in problem (1).

4. Solve Exercise 3.36, page 137.  Please <u>print and submit</u> your output.

5. Consider the following Residuals vs Fits plot and residuals' probability plot (along with the Anderson-Darling test results) of a linear regression study.



a. State whether the assumption $E(\varepsilon_i) = 0$ is violated or not.  Why?

b.  According to the Anderson-Darling result, is the normality assumption is justified at any reasonable significance level. Answer by considering $H_0$: Random error terms are normal, and by using $p$-value.

c. By considering the Residuals vs Fits plot, do the residuals have a constant variance, i.e., are the distributions of the errors identical?

6. Solve Exercise B.1, page 627.

7. Solve Exercise B.2, page 627.