Department of Mathematics and Statistics
Semester 122

STAT212 Quiz 3 Saturday April 20, 2013

Name: _____ ID #: _____

1) An accountant for a large store would like to develop a model to predict the amount of time it takes to process invoices. He collects data for 32 invoices and computes the following summary.

$\sum invoices = 4078, \quad \sum time = 65.7,$
$\sum (invoices)^2 = 687580, \quad \sum (time)^2 = 164.29, \quad \sum invoices * time = 10435.7,$

a) Determine which are the independent variable and dependent variable.

b) Fit an appropriate linear model.

c) Explain the meaning of the parameters.

d) Fill the ANOVA Table

| Source | DF | SS | MS | F |
|---|---|---|---|---|
| Regression | | | | |
| Residual Error | | | | |
| Total | | | | |

e) Test for the significance of the regression. Explain.

f) Find a 90% confidence interval for the slope.

2) You want to develop a regression model to predict the GPA in accounting for graduating accounting majors, based on the student's high school score and whether the student received a "higher than B grade" or not.

i) Write down the model and define each variable.

ii) Suppose the regression coefficient for the variable whether the student received a "higher than B grade" is +0.30. How do you interpret this result?