Econ 420 Exercise for Monday November 10
De Jong, Fall 2003

For November 10, read paragraphs 5.1 and 5.2 of Studenmund. Also, answer the following questions that will be discussed in class. Consider the following regression output:

Dependent Variable: SALARY
Method: Least Squares
Date: 10/27/03 Time: 21:45
Sample: 1 50
Included observations: 50

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>24199.65</td>
<td>???</td>
<td>22.43985</td>
<td>0.0000</td>
</tr>
<tr>
<td>METRICS</td>
<td>5033.085</td>
<td>456.3073</td>
<td>11.03003</td>
<td>0.0000</td>
</tr>
<tr>
<td>GPA</td>
<td>1643.267</td>
<td>352.2898</td>
<td>4.664531</td>
<td>???</td>
</tr>
</tbody>
</table>

R-squared 0.736879 Mean dependent var 30430.92
Adjusted R-squared 0.725682 S.D. dependent var 2739.002
S.E. of regression 1434.561 Akaike info criterion 17.43323
Sum squared resid 96724389 Schwarz criterion 17.54795
Log likelihood -432.8308 F-statistic 65.81256
Durbin-Watson stat 1.798742 Prob(F-statistic) 0.000000

1. Test the null hypothesis $H_0: \beta_2 = 0$ against $H_1: \beta_2 \neq 0$ at the 5% level. Can we reject the null hypothesis?

2. Answer the same question, but now test at the 1% level.

3. Test the null hypothesis $H_0: \beta_1 = 0$ against $H_1: \beta_1 \neq 0$ at the 5% level. Can we reject the null hypothesis?

4. Describe what the $t$-test statistic of 22.43985 tests for. Is it meaningful to look at this value?
5. The $p$-value for “gpa” is missing. Is this value less or more than 1%? Use your $t$-table to answer this question.

6. What was the standard error for the constant that was deleted from the output?