1. Results from regressing the spread between Corporate AAA bonds and the Treasury 10-year note on GDP are provided below:

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Coefficients** | **Standard Error** | **Breusch-Pagan** |
| Intercept | 0.4382 | 0.2198 | 2.247 |
| Slope | –1.2375 | 0.6194 | 7.824 |
| X2 Critical Value (1df, 0.05 significance) |  |  | 3.84 |
| t-critical value (38df, 0.05 significance) |  |  | 2.024 |
|  |  |  |  |
| Standard errors corrected for heteroskedasticity and serial correlation: | | | |
| Intercept |  | 0.2078 |  |
| Slope |  | 0.6064 |  |
| Durbin-Watson (DW) Statistic |  |  | 0.2 |
| Durbin-Watson Critical Values (dL/dU) at K = 1, n = 40, and 0.05 significance: |  |  | 1.44/1.54 |

a)      Test the hypothesis:  
Ho: Intercept = 0; Ha: Intercept ≠ 0  
Ho: Slope = 0; Ha: Slope ≠ 0

b)      Calculate the correlation between the regression residuals t and (t – 1).

c)       Test the hypothesis:  
Ho: positive serial correlation = 0  
Ha: positive serial correlation ≠ 0

1. Following are results of a linear trend model on log-normal stock prices:

|  |  |
| --- | --- |
| **Regression Statistics:** |  |
| R2 | 0.9675 |
| Standard error | 0.1829 |
| Observations | 80 |
| Durbin-Watson | 1.65 |
| Intercept | 2.8904 |
| Standard error (intercept) | 0.0721 |
| t-statistic (intercept) | 40.09 |
| Trend | 0.0086 |
| Standard error (trend) | 0.00136 |
| t-statistic (trend) | 6.6154 |

a)      State the log-linear equation.

b)      Estimate the stock price for the next quarter.

c)      Identify one error that could invalidate the model.