STAT 415 615 REGRESSION

CLASSWORK/LAB Using Matrices to produce coefficients of a linear model

Instructions: Submit to Canvas an R Markdown file and a Word file that shows all required R code, Script, and Output.

1)

Table

Description automatically generated

2)

Consider the simultaneous equation:

4x + 7y = 25

2x + 3y = 12

Use and show R coding to write these equations in matrix notation and using matrix methods find solutions for x and y.

3)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Y | 124 | 95 | 71 | 45 | 18 |
| X | 49 | 69 | 89 | 99 | 109 |

For the bivariate data above, use matrix procedures and R code to find the linear model’s intercept, slope, residuals, and fitted values.