Part 1:

Read in matrix D and E from file

Create interim matrix to use for math

Set interim matrix equal to the identity matrix – matrix D

Nested for loop where {interim[i][j] = identity[i][j] – matrixD[i][j]}

Use gaus-jordan function from assignment 2 to find inverse of interim matrix, and set interim matrix equal to that.

Multiply interim matrix by matrix E to find matrix X

Nested for loop where {Result matrix += interim[i][j] \* matrixE[j]}

Part 2:

Read in matrix x and y from file

Create second matrix for transpose of x

Multiply xT \* x and store that in matrix XtX

Triple nested for loop where {Result matrix[i][j] += XT[i][k] \* X[k][j]}

Multiply xT & y and store that in matrix XtY

Triple nested for loop where {Result matrix[i][j] = XT[i][k] \* Y[k][j]}

Take inverse of matrix XtX and set XtX equal to that

Create function using 1/(ad-bc)\*[d -b -c a] gives inverse of 2x2 matrix

Multiply XtX (which is now inverse) by XtY to find coefficient matrix

Triple nested for loop where {Result matrix[i][j] = XtX[i][k] \* XtY[k][j]}

Print coefficient matrix as “regression line is y = “ << COE[0] << “ + “ << COE[1]

Use sciplot to graph regression line

Wing it

Use for loop in sciplot function to graph each point using matrix[i][1] and matrix[i]

Wing it