4. Find the least squares polynomial of degree 1 for the data in the table, and compute the error E.

x_i	1.0	1.1123	1.3369	1.5615	2.0107
y_i	1.8372	1.9467	2.1747	2.3936	2.8404

5. Find a singular value decomposition of the matrix

$$A = \begin{bmatrix} 2 & 1 \\ 1 & 0 \\ 0 & 1 \end{bmatrix}.$$

6. Write a code using MATLAB and the built-in function svd( ) to determine the least squares polynomial of degree 3 of the following data

x_i	1.0	1.1	1.3	1.5	1.9	2.1
y_i	1.84	1.96	2.21	2.45	2.94	3.18