

Quiz #2

Please print your name:

Problem 1.

(a) Find the least squares solution to $\begin{bmatrix} 1 & 1 \\ 1 & 0 \\ 1 & 2 \end{bmatrix} \mathbf{x} = \begin{bmatrix} 1 \\ 6 \\ 2 \end{bmatrix}$.

(b) What is the orthogonal projection of $\begin{bmatrix} 1 \\ 6 \\ 2 \end{bmatrix}$ onto $\text{span}\left\{\begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ 0 \\ 2 \end{bmatrix}\right\}$?

(c) Determine the least squares line for the data points $(1, 1), (0, 6), (2, 2)$.