

Exercise 1:

You are given data with observations $\mathbf{x}^{(i)} = (x_1, x_2, x_{\text{status}})^{(i)} \in \mathcal{X}$ with $x_{\text{status}} \in \{\text{single}, \text{married}, \text{divorced}\}$ as plotted below. Find the k -neighborhood of the red point $\mathbf{x}^* = (0, 0, \text{single})$ for $k = 1$ using a distance measure from the lecture that is suited to the data format.

