Bayesian Classification of Normal Data Tutorial Exercise

Consider two populations $\Omega_1 : \{[0,0,0]^T, [1,1,0]^T, [1,0,0]^T, [1,0,1]^T\}$ and $\Omega_2 : \{[0,0,1]^T, [0,1,1]^T, [0,1,0]^T, [1,1,1]^T\}$.
a) Estimate the mean values of the populations using equation:
$\mathbf{m}_i = 1/N_i \sum_{j=1}^{N_i} \mathbf{x}_{ij}$.
b) Estimate the covariance matrices using:
$\mathbf{C}_i = 1/N_i \sum_{j=1}^{N_i} \mathbf{x}_{.ij}\mathbf{x}_{ij}^T - \mathbf{m}_i\mathbf{m}_i^T$.
c) Find the Bayes decision rules considering that the populations have normal distribution and their a-priori possibilities are equal.