Notation	Explanation
X	Entire training set
$X_c$	All samples of the $c^{\text{th}}$ class
$x_i^c$	The $i^{th}$ sample of the $c^{th}$ class
q	Dimension of a sample
$N_c$	Number of samples of the $c^{th}$ class
M	Number of classes
x	Testing sample