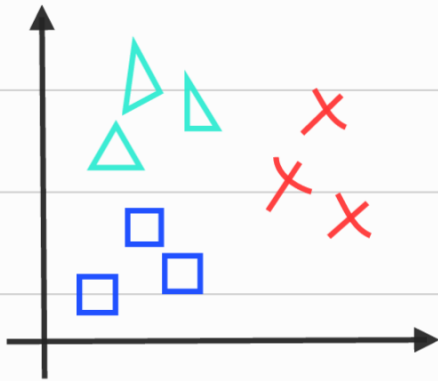# Multiclass Classification

ex. Email foldering / tagging - Work, Friends, Family ...
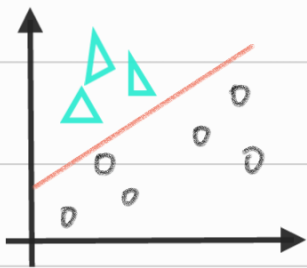
Medical diagrams - Not ill, Cold, Flu ...

Weather - Sunny, Cloudy, Rain, Snow ...

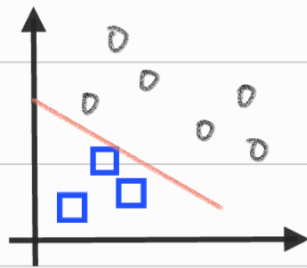$y=1$ $y=2$ $y=3$ $y=4$ ...
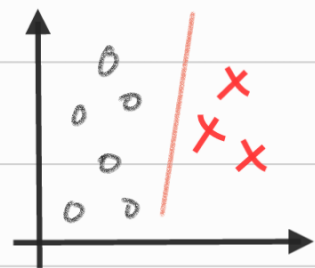
One-vs-all (One-vs-rest)   OvA (ovr)

— logistic regression

$\Delta = 1$, rest $= 0$ $\square = 1$, rest $= 0$ $x = 1$, rest $= 0$

$h_\theta^{(1)} x$ $h_\theta^{(2)} x$ $h_\theta^{(3)} x$

∴ 세 가지에 분류를 fitting한 것,

각 fitting은 해당 class를 분류하므로

새로운 X에 대해 모두 돌려보고 최댓값 받은 클래스 i 선택

$\max\limits_{i} h_\theta^{(i)} x$