

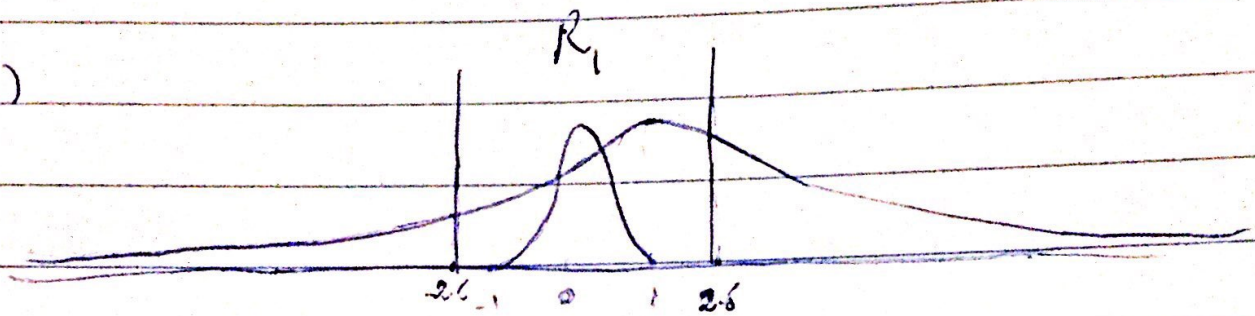
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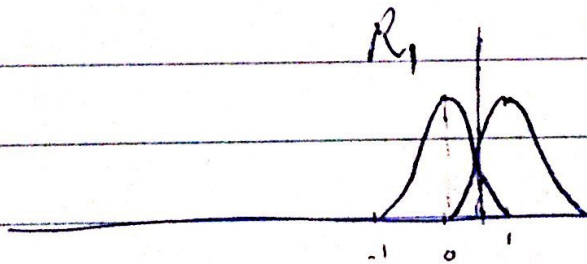
Subject

decision boundaries

a)



b)



Gradient descent in computer homework:

write an expression for $\nabla L(w)$:

$$E = \frac{1}{n} \sum_{i=0}^n (y_i - \bar{y}_i)^2$$

$$E = \frac{1}{n} \sum_{i=0}^n (y_i - (wx_i + b))^2$$

$$D_w = \frac{1}{n} \sum_{i=0}^n 2(y_i - (wx_i + b))(-x_i) = -\frac{2}{n} \sum_{i=0}^n x_i (y_i - \bar{y}_i)$$

$$D_b = -\frac{2}{n} \sum_{i=0}^n (y_i - \bar{y}_i) \xrightarrow[\text{Value}]{\text{update}} \begin{aligned} w &= w - L \times D_w \\ b &= b - L \times D_b \end{aligned}$$