

a For this part of the peroblem you may assume on (the dimension of x) is 1, so that

$$\sum = [6]$$

$$|\Sigma| = 6^{2}$$

=> In gaussian discriminant andysis:

The log-likelighood of death is given by

l(φ, μ, Σ) = log TT P(x(1), y(1); φ, μ, μ, Σ)

= log [P(x⁽ⁱ⁾|y⁽ⁱ⁾, 10,11,5) P(y⁽ⁱ⁾, 0)

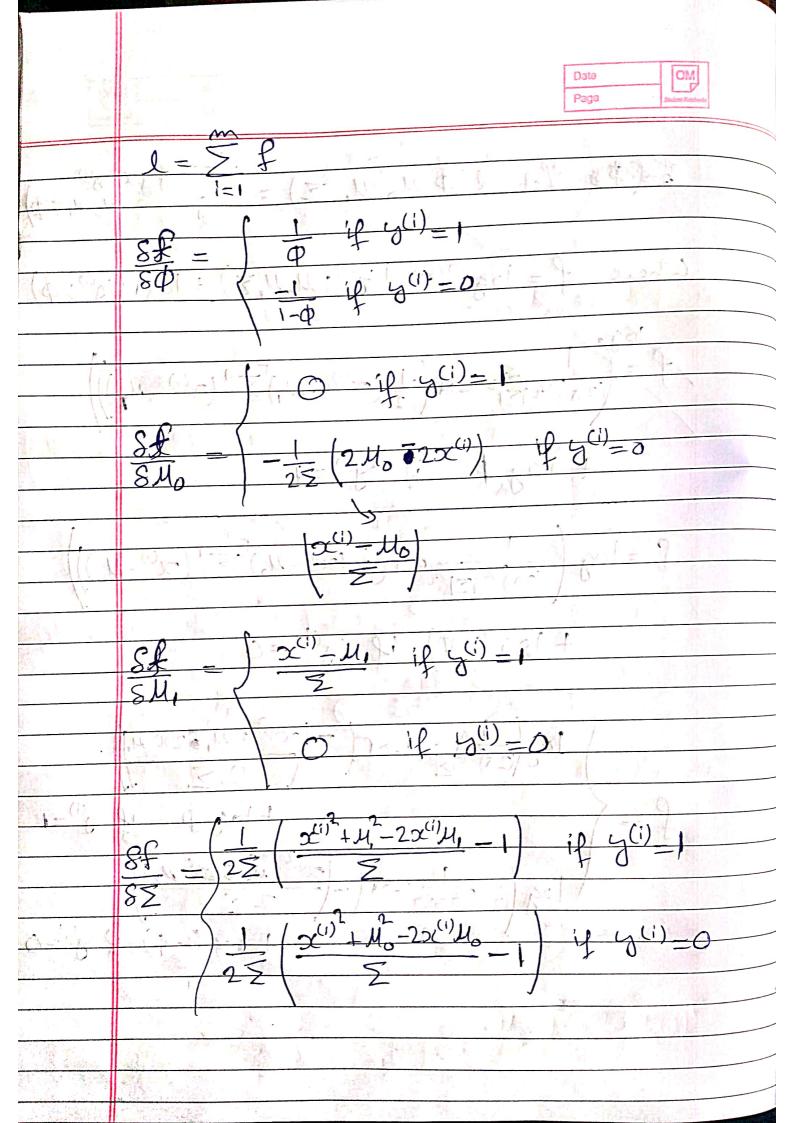
 $= \sum_{i=1}^{m} \log P(x^{(i)}; y^{(i)}; u, u, \Sigma) + \log P(y^{(i)}; 0)$

 $\frac{1}{(2\pi)^{m/2}} \frac{1}{|\Sigma|^{n/2}} e^{-R} \left[-\frac{1}{2} \left(x^{(2)} + \mu^{(3)} \right) \right]$

Where $\mathcal{U}^{(i)} = \mathcal{U}^{1\{y^{(i)}=1\}} \mathcal{U}^{1\{y^{(i)}=0\}}$

0 = 1 0 = 1 0 = 1 0 = 0 0 = 0





\Rightarrow	For	mazina	!

$$\frac{Sl}{s\Phi} = 0 k \frac{Sl}{SH} = 0 k \frac{Sl}{SH} = 0 k \frac{Sl}{SS} = 0$$

$$\begin{array}{c|c}
\hline
0 & \underline{\$l} = 0 \\
\hline
\$\phi
\end{array}$$

$$\Rightarrow \frac{1(3^{(i)}=1)}{(1-q)} = 0$$

$$\sum_{i=1}^{m} \frac{1}{y^{(i)}} = 1 = 0$$

$$\Rightarrow \alpha + \frac{-b}{1-p} = 0 \Rightarrow \alpha - b$$

$$\phi + \frac{1-p}{1-p} \Rightarrow 0 = \frac{1-p}{1-p}$$

$$\Rightarrow a-a\phi=b\phi \Rightarrow \phi=\frac{a}{a+b}$$

$$\phi = 1 \sum_{i=1}^{m} 1\{y^{(i)} = 1\}$$

