	Date:
	4.
	Question 4:
	Given, N. remober of observations
	P variables
	9 = 2 (number of classes)
	2 Las of observations in class A = NA
	Number of Observations in class B= NB
	Rorejose, prior: MA = NA
	To = Do
	1 1 0 × 10 ((4)) ((4)
-	Linear Discomminant Analysis rule (lassifies on observation x to class R if dg(x)>bA(x).
n pi	Sq(x) = log Tg + x T 5 - 1 Mg - 1 Mg 5 - 1 Mg
	3
	: 3B(x) > 3A(x)
1	=> logTB + xT5-1 MB - 1 MB 5-1 MB >
	109 TA + XT E- MA - YZ MA E MA
	=) log Tin - log Tin + Y2 HAT 5-1 HA - Y2 MB 5-1 HB >
	= log Tig - log Tig + Ys JA / JA - 12 - 15 - 1 HB
1	=> & MATE- MA - = ME = MB + 109 (23) - 19(24)
1	> x T E - (MA - MB)

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<i>f</i>	1 / 2 2 5 - W - 1 W 21	_
	=> - XT = 1 (MA-MB) > - (Y MA E - MA = + MBE / B	
	=> - xT Z^1 (MA-MB) > - (Y2 PTA Z - MA = LMBZ MB - + log(NA) + log(NB)	
		-
	= = = = = = = = = = = = = = = = = = =	_
	+ 100 (NA) - 109 (NB)	_
<u></u>	$+ \log\left(\frac{Na}{Na}\right) - \log\left(\frac{NB}{NB}\right)$	
	- linear discriminant analysis tale	
1	classifier en observation X to class B if	
	Classifics of Ossocial & Co Class of	7
	xT 2-1/ H2 - U2) > 1 UT 2-1 H 1 UT 2-1 H	3
	xT2-1/2-4-1-21/-3x	
T-		_
1-	+ log (NA) - log (NB)	_
	JUN	_
		-
	A STEEL AND THE RESERVE AND TH	_
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