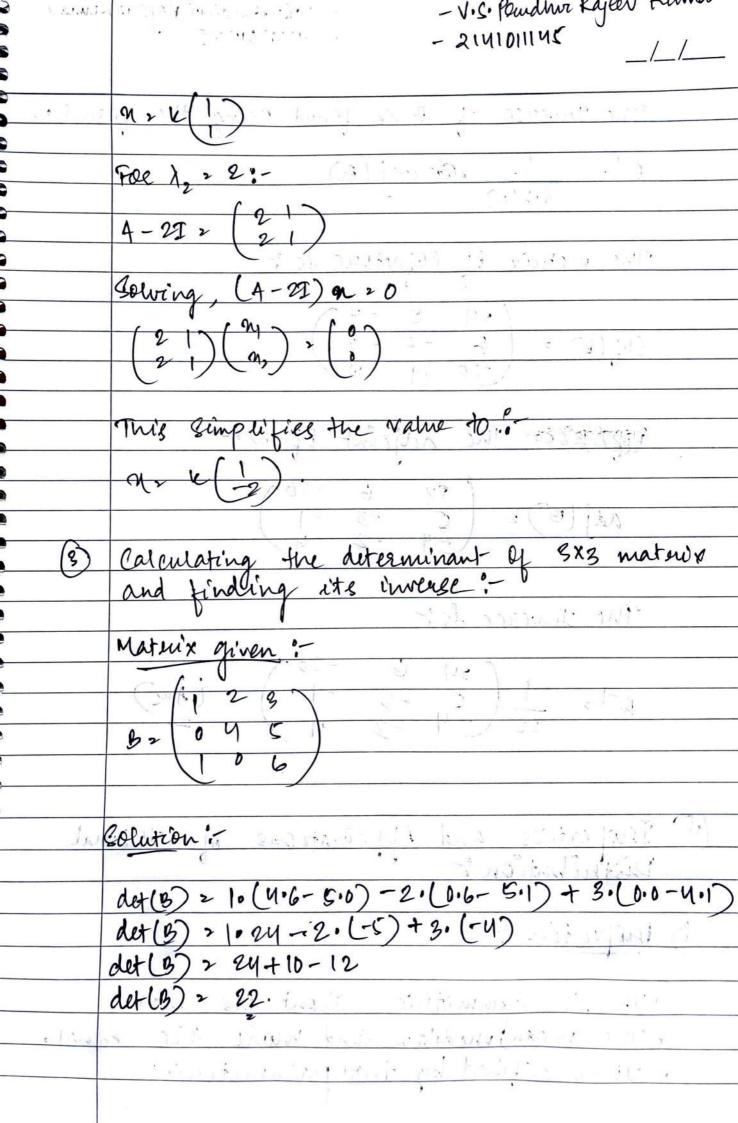
Name: N.S. Pandrvi Kajeev Kumaa
Name: N.C. Pandovi Rajeev Kumas Regano: 2141011146
Week-Assignment-19
- Iskundad - F
Medical diagnosis problem
The state of the s
Peroblem Statement: A patient tested for a cortain
aisease me let is my arms ato meaning the
Publicability of a politive Test arion but the satisfient
Of the negltive teet is given by PITOID ()
0.99. The prevalence of the disease in the
Of the negltive test is given by P(TOID) is 0.99. The prevalence of the disease in the general population P(D) is 1.1. Then what is the perobability that the person actually was disease.
is the peropositive that the pogeon autually
has disease.
by bayes Theorem:
PLDITT) > PLTTO) · PLD)
P(T+)
P(T+) > P(T+ D) · P(D) + P(T+ D) · P(D*)
briven:
P(T+1D) 2 0.99
P(D) ~ 0.01
P(D) = 0.01 P(T) (D') = 0.00 SO P(T+ (D') = 1-P(T- (D'))
~ U·O\
PLD") = 1-P(D) = 0.99.

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(T)		- 21 41011145 11
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		Calculation DITT):
		Calculating P(T+):
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		P(T+) > (0.99 * 0.01) + (0.01 * 0.99)
-0		PLT+) > 0.0099+ 0.0099
		PLT+) - 0.0198.
7		TO THE SECURIOR OF THE SECURIOR SECURIO
		Now apply Bayes Theorem :
		PLD T+) - 0.99 x 0.01 000 0000
n		0.0198
		an Allake 1/ mi
<u></u>		P(D(T+) 2 0.0099
-		
		PLDITT) 2. DOCSA
2		en free des charvalure Es:
2	2)	Co, the perobability that the patient actually has the disease given a positive test conscious result is approximatly 0.5 or 50%.
	,	has the disease given a positive test
		com result is approximatly 0.5 or 50%.
9		1 Pa-A
9	(2)	Finding Eigan values and Eigan Vertors-
		Control (2 - 6) Similar
0		briver Matrix :
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9		A >
		1 2 5
9		STEE BOOKEN AT ATTEMPT OF TOP TO
9	Col	det (4- 2) -0
2	1	
ン		A-NI 2 (4-N)
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	The determinant is:	
	· ·	
	det (4-N2) 2 (4-N) (3-N) -2.1	7
	$\lambda^2 - 7\lambda + 10$	
	Co, the deferminant to Zero?	
	V- 4X4 (0 2 0	-
	So, the graduation is :-	5
	so, no profession is	6
	100 λ = 7 ± √49-40	
	2 ASON 6 1 17 1 17	
	λ > \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	•
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	11 2 5, 12 3 (T) (T) (T)	-
	So, for the eigenvalues C, 2:-	
N.Jansi	1 / V	
	- 708 3X 11 20 :- NOVIN 1 3 1 1 1 1 1 1 1 1 1	
0/00	ED 200 Julianistanting 11 11 15000 ED	
	4-52 ~ ()	
- 25-0	1000 Cua pist 2005-2/ 2000 AV ONE PIT maintaint (4)	
	Solving (4-52)n ~ 0	-
	(-1) (01)	
	$\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$	
	for tuis the equation simplifies to !-	
		•
	- m+m2 , o , and m2 my. Thus the eigenvector corresponding to 1, > 50	•
	condition cossesponding to 1, > 50	-
	engan with the same of the sam	12
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station of	- V.S. Pendhor Rajeer Kumar
	- 2141011145
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	The Turence of B is found veing the formula
4	6-12 1 . de adj (6)
	6-1, det (6) det (6)
	The matrix of Cofactous is !
	1011 15 -112
	$coy(B) = \begin{pmatrix} 24 & C & -4 \\ 6 & -3 & -2 \\ -20 & -1 & 4 \end{pmatrix}$
	(-20 -1 y)
9	The adjoint of B:
	24 6 -207
	ay (b) 2 (c -3 -1)
Truta.	in exe 10 to this patient of patient on 12
	The distance with the partition of her
	The Inverse is:
	C 201 C - 201
	3-12 - (24 6 -20) (Am)
	22 -4 -2 4) =
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is PA	ropeutous (+1)
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99	
	The mean, median and mode are equal,
. (Tria dali ad lui tun sacratica
	It is defined by two parameters.

	- V.S. Pemdini Rajeer Ruman
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C	Applications:
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