Mentor

1 point

1 point

1 point

I Init 7 - Week 5

ourse outline	Δςς	ignme	nt 5		
ow does an NPTEL online ourse work?			this assignment ha	as passed.	Di
eek 0	As per our	r records you have	e not submitted this	assignment.	
ek 1		a matrix whose col	umns are zero mean,	then the covariance matrix \sum is givenby:	
ek 2	$\frac{1}{X}X^TX$				
3	\overline{m}^{A}				
	$\frac{1}{m}X^{-1}X$	X			
	<i>m</i>				
	$\frac{1}{m}XX^{-}$	1			
alues and Eigenvectors	0				
r Algebra : Basic itions	$\frac{1}{m}XX^T$ No, the an	swer is incorrect.			
alue Decompositon	Score: 0				
Component Analysis nterpretations	$\frac{1}{m}X^TX$	Allowers.			
Interpretation 2	2) Consid	ler the following ve	ctors,		
erpretation 3		[3][1][.41		
nterpretation 3 (Contd.)		$\begin{bmatrix} 3 & 1 \\ 5 & 2 \end{bmatrix}$	7		
ractical Example		[7][2]	.4]		
Value Decomposition	Are the	ese vectors basis f	or R3?		
laterial for Week 5	○Yes				
Assignment 5	○No				
Feedback	No, the an	swer is incorrect.			
	Accepted /	Answers:			
		ito the Correlation	hotwoon A and D		
	3) Compu	ute the Correlation	between A and B.		
		A	В		
		11	15		
		12	30		
		15	14		
ad Videos		17	14		
inscripts		21	34		
onpto	0.786				

Assignment 5 The due date for a demining the ausignment has passed. As per our records you have not submitted this easignment. 1) If X a matrix videos columns are zero mean. Then the covariance matrix ∑ is given by: 1				
As per our records you have not submitted this assignment. If If X is a marrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \text{ giventy}\$: If years \$\frac{1}{x} \times \text{ X}\$: \[\frac{1}{x} \times \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \text{ giventy}\$: \[\frac{1}{x} \times \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \times \text{ giventy}\$: \[\frac{1}{x} \times \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\sum_{\text{is}} \times \text{ point} \\ \frac{1}{x} \times \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\text{is} \times \text{ matrix whose columns are zero mean, then the covariance matrix \$\text{is} \text{ matrix whose covariance matrix \$\text{is} \text{ matrix whose covariance matrix \$\text{is} \text{ giventy} \text{ matrix whose covariance matrix \$\text{is} \text{ matrix whose covariance matrix \$\text{is} \text{ matrix whose covariance matrix \$\text{is} \text{ point} finite columns of \$\text{ are shown and decomposition, is which of the following condition does \$\text{ of selections of \$\text{ are shown and decomposition, is which of the following condition does \$\text{ of the columns of \$\text{ are after the columns of \$\				
Typeint Typeint Typei				
The entire of the following vectors, and the following vectors, and the server is incorrect. Score of the following vectors, and the following vectors, and the following vectors, and the following vectors, and the following vectors are set on basis for R37 Total 1	1) If X is a ma	atrix whose colun	nns are zero mean, the	In the covariance matrix \sum is givenby:
The entire of the following vectors, and the following vectors, and the server is incorrect. Score of the following vectors, and the following vectors, and the following vectors, and the following vectors, and the following vectors are set on basis for R37 Total 1	0			
The entire of the following vectors, and the following vectors, and the server is incorrect. Score of the following vectors, and the following vectors, and the following vectors, and the following vectors, and the following vectors are set on basis for R37 Total 1	$\frac{1}{m}X^TX$			
\(\frac{1}{x}X^{-1} \) \(\f				
Topint T				
Topint T	$\frac{m}{m}XX^{-1}$			
No. the answer is incorrect. Score 0 Accepted Answers: 3 1 4 7 7 2 4 5 2 1 4 7 2 1 4 Are these vectors basis for R9? Yes No No.	$\frac{1}{X}X^T$			
Typoint Typoint Typoi	No, the answe	er is incorrect.		
2] Consider the following vectors, 3 1 1 4 7 7 2 7 4		wers:		
Are these vectors basis for R3? Yes No No, the answer is incorrect. Score 0 A B 11 15 12 30 15 14 17 17 14 21 34 0.788 0.123 0.912 0.912 0.934 None No, the answer is incorrect. Score 0 1.788 1.10 1.798 1.10 1.708 1.10 1.708 1.10 1.708 1.70	m			
Are these vectors basis for F3? Yes No No, the answer is incorrect. Score. 0 Compute the Correlation between A and B. 7 point A B 11 15 12 30 15 14 17 14 17 14 17 14 17 14 17 14 17 14 17 14 17 14 18 18 18 18 18 18 19 18 18	2) Consider t			1 point
Yes No, the answer is incorrect. Score: 0 A B 11 15 12 30 15 14 17 14 21 34 0.786 0.123 0.812 0.812 0.834 None No, the answer is incorrect. Score: 0 When the columns of U are linearly independent If the columns of U are linearly dependent If the columns of U are linearly dependent No the deserved of these No the sense incorrect. Score: 0 Accepted Answers: 10,000 Ac		$\begin{bmatrix} 3 & 1 & 2 & 3 \\ 5 & 2 & 2 & 4 \end{bmatrix}$	1	
No. the answer is incorrect. Score: 0 Accepted Answers: A	Are these	vectors basis for	R3?	
No. the answer is incorrect. Score: 0 Accepted Answers: 198 A				
Accepted Answers: 198 3) Compute the Correlation between A and B. 1 point A	No, the answe	er is incorrect.		
A B 11 15 12 30 15 14 17 14 21 34 O.786 0.123 0.812 0.384 None No, the answer is incorrect. Score: 0 Accepted Answers: 0.384 4) Recall Eigenvalue decomposition, in which of the following condition does U-1 exists? 1 point If the columns of U are linearly independent If the columns of U are linearly dependent If the columns of U are linearly dependent or linearly independent None of these No, the answer is incorrect. Score: 0 Accepted Answers: 1 point	Accepted Ans	wers:		
11	Compute t	he Correlation be	etween A and B.	1 point
11				
12 30 15 14 17 14 21 34 34 34 34 34 34 34 3				
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0.786 0.123 0.812 0.384 None No, the answer is incorrect. Score: 0 1 reciprocal forwards in incorrect. 1 point 1 the columns of U are linearly independent 1 the columns of U are linearly dependent or linearly independent 1 the columns of U are linearly dependent or linearly independent 1 the columns of U are linearly dependent or linearly independent 1 the columns of U are linearly dependent or linearly independent 3 No, the answer is incorrect. Score: 0 1 point 1 / point 1 Point				
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O.384 None No, the answer is incorrect. Score: 0 Accepted Answers: O.384 4) Recall Eigenvalue decomposition, in which of the following condition does U-1 exists? 1 point If the columns of U are linearly independent If the columns of U are either linearly dependent If the columns of U are either linearly dependent or linearly independent None of these No, the answer is incorrect. Score: 0 Accepted Answers: If the columns of U are linearly independent 1 point 1 2 0 1 Accepted Answers: If the native M is called stochastic matrix if all the entries are positive and sum of the elements in each column is equal to 1 point 1 2 0 -1 No, the answer is incorrect. Score: 0 Accepted Answers: 1	0.123			
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Score: 0 Accepted Answers: 0.384 4) Recall Eigenvalue decomposition, in which of the following condition does U-1 exists? 1 point If the columns of U are linearly independent If the columns of U are linearly dependent None of these No, the answer is incorrect. Score: 0 Accepted Answers: If the columns of U are linearly independent 5) A matrix M is called stochastic matrix if all the entries are positive and sum of the elements in each column is equal to		ur in incorrect		
If the columns of U are linearly independent If the columns of U are either linearly dependent or linearly independent If the columns of U are either linearly dependent or linearly independent None of these No, the answer is incorrect. Score: 0 Accepted Answers: If the columns of U are linearly independent 1 √2 0 -1 No, the answer is incorrect. Score: 0 Accepted Answers: 1 Accepted Answers:	Score: 0 Accepted Ans			
 If the columns of U are linearly dependent If the columns of U are either linearly dependent or linearly independent None of these No, the answer is incorrect. Score: 0 Accepted Answers: If the columns of U are linearly independent 5) A matrix M is called stochastic matrix if all the entries are positive and sum of the elements in each column is equal to 1 point 1 √2 0 -1 No, the answer is incorrect. Score: 0 Accepted Answers: 1 	4) Recall Eige	envalue decompo	osition, in which of the	following condition does U ⁻¹ exists?
 If the columns of U are either linearly dependent or linearly independent None of these No, the answer is incorrect. Score: 0 Accepted Answers: If the columns of U are linearly independent 5) A matrix M is called stochastic matrix if all the entries are positive and sum of the elements in each column is equal to 1 point 1 √2 0 -1 No, the answer is incorrect. Score: 0 Accepted Answers: 1 				
No, the answer is incorrect. Score: 0 Accepted Answers: If the columns of U are linearly independent 5) A matrix M is called stochastic matrix if all the entries are positive and sum of the elements in each column is equal to 1 point 1	Olf the colu	ımns of U are eith		or linearly independent
Score: 0 Accepted Answers: If the columns of U are linearly independent 5) A matrix M is called stochastic matrix if all the entries are positive and sum of the elements in each column is equal to 1 point 1				
5) A matrix M is called stochastic matrix if all the entries are positive and sum of the elements in each column is equal to 1 point 1 2 0 -1 No, the answer is incorrect. Score: 0 Accepted Answers: 1	Score: 0 Accepted Ans	wers:	indonesiant	
○ 1 ○ √2 ○ 0 ○ -1 No, the answer is incorrect. Score: 0 Accepted Answers: 1				rice are positive and sum of the elements in each column is equal to
O O O O O O O O O O O O O O O O O O O		i is called stocila	Suc matrix ii ali tile em	ries are positive and sum of the elements in each column is equal to
No, the answer is incorrect. Score: 0 Accepted Answers:				
Score: 0 Accepted Answers: 1				
	Score: 0 Accepted Ans			
	6) Consider t	he following data	ı:	1 point

y z 0.5 1.5 1.4 $0.65 \quad 0.98 \quad 0.98$ 0.54 0 0.12 0.25 0.59 0.6 0.82 2 2 $0.74 \quad 0.89 \quad 0.89$ 0.26 0.53 0.52 0.46 0.26 0.27 0.38 0.97 0.95 1 Is column z adding any new information to the data?

7) For the data given in question no.6, What is the correlation between y and z? 0.5

No, the answer is incorrect. Score: 0

Accepted Answers:

O Yes

○ No

0 1.01

0.997

0.997 0.1

No, the answer is incorrect. Score: 0

Accepted Answers:

Accepted Answers:

No, the answer is incorrect. Score: 0

Accepted Answers:

 $O(n^3)$

-20

I. λ _d >1	a. will vanish
II. λ _d <1	b. will reach a steady state
III. λ _d =1	c. will explode

8) If λ_d is the dominant eigenvalue of a matrix, what would happen to the sequence \mathbf{x}_0 , $\mathbf{A}\mathbf{x}_0$, $\mathbf{A}^2\mathbf{x}_0$, ... if

	III. λ _d =1	c. will explode
O I-c,	II-a,III-b	
	II-b,III-c	
◯ I-c,	II-b,III-a	
O Nor	ne of these	
No, the Score: 0	answer is incorrect.	

Accepted Answers: I-c,II-a,III-b	
9) Time complexity of Gaussian elimination is	
O(n²)	
○ O(n³)	
O(n)	
None of these	
No, the answer is incorrect. Score: 0	

10) Which of the following is the most dominant eigen value? 1 point **6 3** _-20 **10**