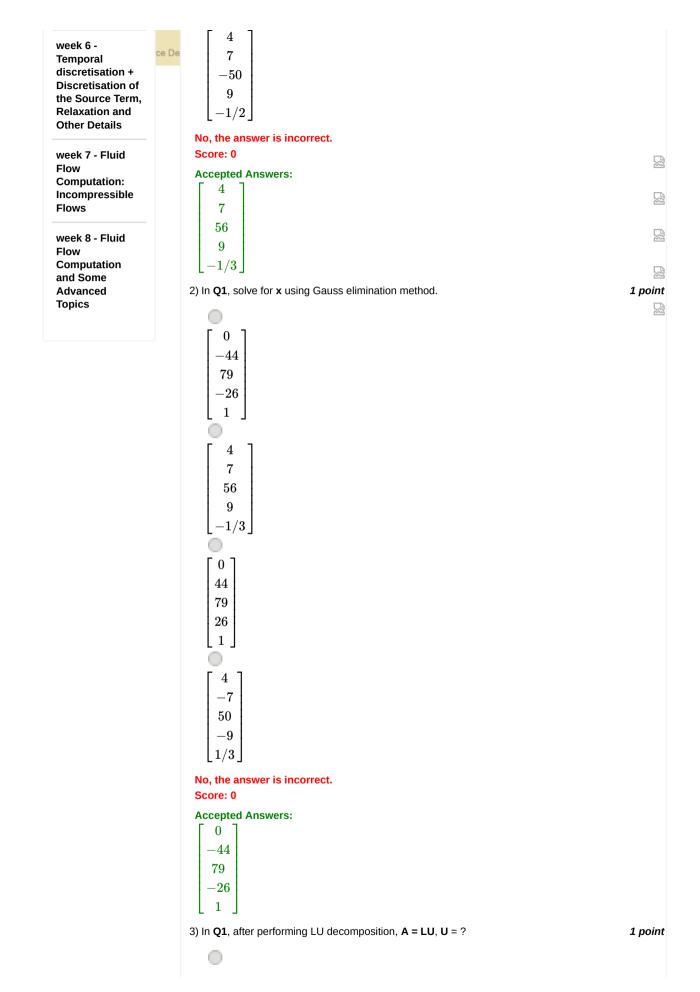
PICEL	reviewer4@i	
ourses » Introduct	ion to Finite Volume Methods II	Ę
Jnit 2 - We		FAQ
inear solv	/ers	2
Register for Certification exam	Assignment 1	2
,	•	2
Course outline	The due date for submitting this assignment has passed.As per our records you have not submitted thisDue on 2019-02-13, 2assignment.	3:59 IST.
How to access the portal	1) Consider a linear system of algebraic equation $Ax=b$, where $\begin{bmatrix} 4 & -4 & -1 & 4 & 11 \end{bmatrix} \begin{bmatrix} 4 \end{bmatrix}$	1 poir
Week 1 - Linear solvers	$A = \begin{vmatrix} 2 & -5 & -2 & 2 & -1 \\ 1 & 2 & 3 & 4 & 5 \\ 1 & 2 & 1 & 0 & 4 \end{vmatrix} \text{ and } b = \begin{vmatrix} 9 \\ 50 \\ -5 \end{vmatrix}$	
C Linear solvers-I	$egin{array}{c ccccccccccccccccccccccccccccccccccc$	
CLinear solvers-		
CLinear solvers-III	While using Gauss elimination method, what is the value of vector b after forward eliminati	on step?
Linear solvers-IV	$\begin{bmatrix} 4\\9 \end{bmatrix}$	
C Linear solvers-V	$\begin{bmatrix} 50\\-5 \end{bmatrix}$	
Quiz : Assignment 1		
Solution for Assignment 1	$\begin{bmatrix} 4\\7 \end{bmatrix}$	
Week 2 - Linear solvers + Convection term discretisation	$\begin{bmatrix} 1\\56\\9\\-1/3 \end{bmatrix}$	
Week 3 - Convection term discretisation	$\begin{bmatrix} 4\\ -7 \end{bmatrix}$	
week 4 - Convection term discritisation +	50 -9	

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -



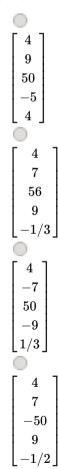




$\begin{bmatrix} 4 & -4 & -1 & 4 & 11 \\ 0 & -3 & -3/2 & 0 & -13/2 \\ 0 & 0 & 7/4 & 3 & -17/4 \\ 0 & 0 & 0 & -4/7 & -41/7 \\ 0 & 0 & 0 & 0 & -1/3 \end{bmatrix}$	
$\begin{bmatrix} 4 & -4 & -1 & 4 & 11 \end{bmatrix}$	
$\begin{bmatrix} 4 & -4 & -1 & 4 & 11 \\ 0 & 3 & 3/2 & 0 & 13/2 \\ 0 & 0 & 7/4 & 3 & -17/4 \\ 0 & 0 & 0 & 4/7 & 41/7 \\ 0 & 0 & 0 & 0 & -1/3 \end{bmatrix}$	
0 0 0 4/7 41/7	
$\begin{bmatrix} 4 & -4 & -1 & 4 & 11 \\ 0 & -3 & -3/2 & 0 & -13/2 \\ 0 & 0 & -7/4 & -3 & 17/4 \\ 0 & 0 & 0 & -4/7 & -41/7 \\ 0 & 0 & 0 & 0 & 1/3 \end{bmatrix}$	
$\begin{bmatrix} 0 & -3 & -3/2 & 0 & -13/2 \\ 0 & 0 & -7/4 & -3 & 17/4 \end{bmatrix}$	
$\begin{bmatrix} 0 & 0 & 0 & -4/7 & -41/7 \\ 0 & 0 & 0 & 0 & 1/3 \end{bmatrix}$	
$\begin{bmatrix} 4 & -4 & -1 & 4 & 11 \\ 0 & 3 & 3/2 & 0 & 13/2 \end{bmatrix}$	
$ \begin{bmatrix} 4 & -4 & -1 & 4 & 11 \\ 0 & 3 & 3/2 & 0 & 13/2 \\ 0 & 0 & 7/4 & 3 & -17/4 \\ 0 & 0 & 0 & 4/7 & 41/7 \\ 0 & 0 & 0 & 0 & 1/3 \end{bmatrix} $	
$egin{array}{cccccccccccccccccccccccccccccccccccc$	
No, the answer is incorrect. Score: 0	
Accepted Answers:	
$\begin{bmatrix} 4 & -4 & -1 & 4 & 11 \\ 0 & -3 & -3/2 & 0 & -13/2 \\ 0 & 0 & 7/4 & 3 & -17/4 \\ 0 & 0 & 0 & -4/7 & -41/7 \end{bmatrix}$	
0 0 7/4 3 -17/4	
$\begin{bmatrix} 0 & 0 & 0 & -4/7 & -41/7 \\ 0 & 0 & 0 & 0 & -1/2 \end{bmatrix}$	
$\begin{bmatrix} 0 & 0 & 0 & 0 & -1/3 \end{bmatrix}$	1 point
$\begin{bmatrix} 0 & 0 & 0 & -4/7 & -41/7 \\ 0 & 0 & 0 & 0 & -1/3 \end{bmatrix}$ 4) From Q3, find L = ?	1 point
$\begin{bmatrix} 0 & 0 & 0 & 0 & -1/3 \end{bmatrix}$	1 point

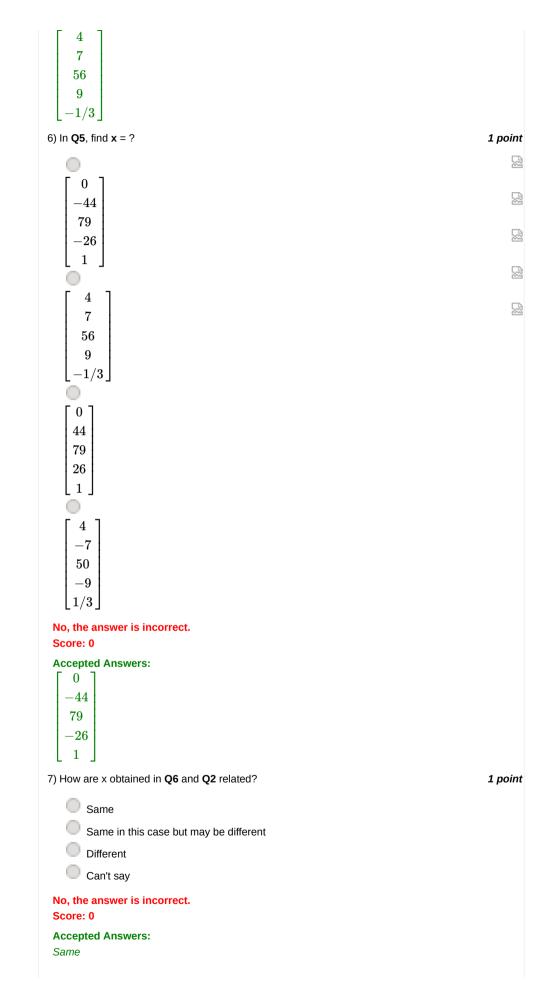
$\begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ 1/2 & 1 & 0 & 0 & 0 \\ 1/4 & 1 & 1 & 0 & 0 \\ 1/4 & 1 & -1/7 & 1 & 0 \\ 1/2 & -1/3 & 0 & 0 & 1 \end{bmatrix}$	
$\begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ -1/2 & 1 & 0 & 0 & 0 \end{bmatrix}$	5
$\begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ -1/2 & 1 & 0 & 0 & 0 \\ -1/4 & 1 & 1 & 0 & 0 \\ -1/4 & 1 & 1/7 & 1 & 0 \\ -1/2 & -1/3 & 0 & 0 & 1 \end{bmatrix}$	R
$\begin{bmatrix} -1/2 & -1/3 & 0 & 0 & 1 \end{bmatrix}$	
No, the answer is incorrect. Score: 0	ß
Accepted Answers: $ \begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ 1/2 & 1 & 0 & 0 & 0 \\ 1/4 & -1 & 1 & 0 & 0 \\ 1/4 & -1 & -1/7 & 1 & 0 \\ 1/2 & 1/3 & 0 & 0 & 1 \end{bmatrix} $	

5) In Q1, if we solve Ax=b using LU decomposition such that, Ux=y and Ly=b, find y=? 1 point



No, the answer is incorrect. Score: 0

Accepted Answers:



8) How are **b** obtained from **Q1** after forward elimination and **y** obtained from **Q5** related? **1** *point*

Same	
Same in this case but may be different	
Different	
Can't say	
No, the answer is incorrect. Score: 0	
Accepted Answers: Same	
9) What is the advantage of using LU decomposition over Gauss elimination method?	1 poi🔜
No advantage Cost of computation is less for solving single system of equations	R
Cost of computation is less for solving multiple system of equations with same A but ob's	liffere
\bigcirc Cost of computation is less for solving multiple system of equations with different A's a	and b 's
No, the answer is incorrect. Score: 0	
Accepted Answers: Cost of computation is less for solving multiple system of equations with same A but different	b 's

Previous Page

End