Started on	Saturday, 7 December 2024, 7:58 PM
State	Finished
Completed on	Saturday, 7 December 2024, 8:04 PM
Time taken	6 mins 36 secs
Grade	**100.00** out of 100.00

Question **1**

Correct

Mark 50.00 out of 50.00

Use LU Decomposition to find L and U matrix.

For example:

Input	Result
[[3, 2, 7], [2, 3, 1], [3, 4, 1]]	[[1. 0. 0.] [1. 1. 0.] [0.66666667 0.83333333 1.]] [[3. 2. 7.] [0. 2. -6.] [0. 0. 1.33333333]]

Answer: (penalty regime: 0 %)

Reset answer

Ace editor not ready. Perhaps reload page?

Falling back to raw text area.

```
'''Program to find L and U matrix using LU decomposition.
Developed by: JAIYANTAN S
RegisterNumber: 24900025
'''
import numpy as np
from scipy.linalg import lu
InputMatrix = np.array(eval(input()), dtype='i')
piv, Lmatrix, Umatrix = lu(InputMatrix)
print(Lmatrix)
print(Umatrix)
```

	Input	Expected	Got	
✓	[[3, 2, 7], [2, 3, 1], [3, 4, 1]]	[[1. 0. 0.] [1. 1. 0.] [0.66666667 0.83333333 1.]] [[3. 2. 7.] [0. 2. -6.] [0. 0. 1.33333333]]	[[1. 0. 0.] [1. 1. 0.] [0.66666667 0.83333333 1.]] [[3. 2. 7.] [0. 2. -6.] [0. 0. 1.33333333]]	✓

	Input	Expected	Got	
✓	[[5, 1, 8], [4, 5, 7], [8, 9, 1]]	[[1. 0. 0.] [0.625 1. 0.] [0.5 -0.10810811 1.]] [[8. 9. 1.] [0. -4.625 7.375] [0. 0. 7.2972973]]	[[1. 0. 0.] [0.625 1. 0.] [0.5 -0.10810811 1.]] [[8. 9. 1.] [0. -4.625 7.375] [0. 0. 7.2972973]]	✓

Passed all tests! ✓

▸ Show/hide question author's solution (Python3)

Correct

Marks for this submission: 50.00/50.00.

Question **2**

Correct

Mark 50.00 out of 50.00

Use LU Decomposition to solve a matrix.

For example:

Input	Result
[[3, 2, 7], [2, 3, 1], [3, 4, 1]] [4, 5, 7]	[0.875 1.125 -0.125]

Answer: (penalty regime: 0 %)

Reset answer

Ace editor not ready. Perhaps reload page?
Falling back to raw text area.

```
'''Program to solve a matrix using LU decomposition.
Developed by:
RegisterNumber:
'''

# To print X matrix (solution to the equations)
import numpy as np
from scipy.linalg import lu_factor, lu_solve
AMatrix = np.array(eval(input()), dtype='i')
BMatrix = np.array(eval(input()), dtype='i')
XMatrix = lu_factor(AMatrix)
Solution = lu_solve(XMatrix, BMatrix)
print(Solution)
```

	Input	Expected	Got	
✓	[[3, 2, 7], [2, 3, 1], [3, 4, 1]] [4, 5, 7]	[0.875 1.125 -0.125]	[0.875 1.125 -0.125]	✓

Passed all tests! ✓

▸ Show/hide question author's solution (Python3)

Correct

Marks for this submission: 50.00/50.00.