

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]]	<pre>[[1. 0. 0.] [1. 1. 0.] [0.66666667 0.83333333 1.]] [[3. 2. 7.] [0. 2. -6.] [0. 0. 1.33333333]]</pre>

Answer: (penalty regime: 0 %)

Reset answer

```
1 '''Program to find L and U matrix using LU decomposition.
2 Developed by: KABELAN G K
3 RegisterNumber: 24900985
4 '''
5 import numpy as np
6 from scipy.linalg import lu
7 InputMatrix=np.array(eval(input()),dtype='i')
8 piv,Lmatrix,Umatrix=lu(InputMatrix)
9 print(Lmatrix)
10 print(Umatrix)
```

	Input	Expected	Got	
✓	[[3, 2, 7], [2, 3, 1], [3, 4, 1]]	<pre>[[1. 0. 0.] [1. 1. 0.] [0.66666667 0.83333333 1.]] [[3. 2. 7.] [0. 2. -6.] [0. 0. 1.33333333]]</pre>	<pre>[[1. 0. 0.] [1. 1. 0.] [0.66666667 0.83333333 1.]] [[3. 2. 7.] [0. 2. -6.] [0. 0. 1.33333333]]</pre>	✓
✓	[[5, 1, 8], [4, 5, 7], [8, 9, 1]]	<pre>[[1. 0. 0.] [0.625 1. 0.] [0.5 -0.10810811 1.]] [[8. 9. 1.] [0. -4.625 7.375] [0. 0. 7.2972973]]</pre>	<pre>[[1. 0. 0.] [0.625 1. 0.] [0.5 -0.10810811 1.]] [[8. 9. 1.] [0. -4.625 7.375] [0. 0. 7.2972973]]</pre>	✓

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

```
1 '''Program to solve a matrix using LU decomposition.
2 Developed by: KABELAN G K
3 RegisterNumber: 24900985
4 '''
5
6 import numpy as np
7 from scipy.linalg import lu_factor,lu_solve
8 AMatrix=np.array(eval(input()),dtype='i')
9 BMatrix=np.array(eval(input()),dtype='i')
10 XMatrix=lu_factor(AMatrix)
11 Solution=lu_solve(XMatrix,BMatrix)
12 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.