LU Decomposition

AIM:

To write a program to find the LU Decomposition of a matrix.

Equipments Required:

- 1. Hardware PCs
- 2. Anaconda Python 3.7 Installation / Moodle-Code Runner

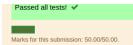
Algorithm

1.Read the elements of augmented matrix into arrays a and b 2.Calculate elements of L and U 3.Print elements of L and U 4.Find V by solving LV = B by forward substitution 5.Find X by solving UX = V by backward substitution 6.Print Array X as the solution

Program:

```
'''Program to find L and U matrix using LU decomposition.
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'''
from scipy.linalg import lu
a=eval(input())
P,L,U=lu(a)
print(L)
print(U)
```

Output:



Result:

Thus the program to find the LU Decomposition of a matrix is written and verified using python programming.