In [1]:

```
#Question 2:
#Check whether the inverse of the following matrix exists. If yes, find the inverse and
verify.


#  0 2 8 6
#  0 0 1 2
#  0 1 0 1
#  3 7 1 0




from My_Lib import *

list_C=[] #calling the matrix
with open("matrix2.txt") as matC:
    for k in matC:
        list_C.append(list(map(float, k.split())))

Inv_ =LU_inverse(list_C) #calling the inverse function

#printing the inverse in matrix form
if Inv_!=None:
    print('Yes!inverse exist!,The inverse of the matrix is A^(-1)=')

    for i in Inv_:
        print(i)


#verifying the inverse

    print("\nVerifying the inverse")
    print(" Hence The value of AA^(-1)=")
    I= matrix_mul(list_C,Inv_)
# Prints the inverse matrix in readable form
    for i in range(4):
        for j in range(4):
            print(round(I[i][j],2),end =' ') #rounded upto 2 places of decimal
        print('')
```

```
Yes!inverse exist!,The inverse of the matrix is A^(-1)=
[-0.25, 1.66667, -1.83333, 0.33333]
[0.08333, -0.66667, 0.83333, 0.0]
[0.16667, -0.33333, -0.33333, 0.0]
[-0.08333, 0.66667, 0.16667, 0.0]

Verifying the inverse
 Hence The value of AA^(-1)=
1.0 0.0 0.0 0.0
0.0 1.0 0.0 0.0
0.0 0.0 1.0 0.0
-0.0 -0.0 -0.0 1.0
```