

In [1]:

```

#Question2
#Use Gauss-Jordan elimination to find the solution of the following system of linear equations

#2y - 3z = -1
#x + z = 0
#x - y = 3

#Readable augmented matrix form:
#Entering one matrix C=[A|b]

# C=
# [A | b] =  $\left[ \begin{array}{ccc|c} 0 & 2 & -3 & -1 \\ 1 & 0 & 1 & 0 \\ -1 & -1 & 0 & 3 \end{array} \right]$ 
#
#Readable augmented matrix form:
#Entering one matrix C=[A|b]

#importing gauss Jordan function from library
from My_Lib import Gauss_jordan

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

#####
#Criterion for exististance of solution
a,b=Gauss_jordan(list_C)
if (a,b) != (None,None):
    print("Solution of the given Linear equation is:")#output rounded upto 3 places of decimal
    print("x = %.2f"%b[0])
    print("y = %.2f"%b[1])
    print("z = %.2f"%b[2])
else:
    print("No unique solution exist for the given equation")

```

Solution of the given Linear equation is:

x = 1.00  
y = -2.00  
z = -1.00