

```

import numpy as np

print('#####')
print('                Question 1a')
print('#####')
print(' ')

a = [[1, 0, 0, 0],
      [0, 2, 3, 0],
      [1, 0, 0, 5]]
J = np.array(a)
print(np.linalg.inv(np.dot(J, J.T)))

print('#####')
print('                Question 1c')
print('#####')
print(' ')

T1 = np.array([2, 4, 6, 5])
T2 = np.array([2, 5, 6, 5])
pseudoInv = np.dot(np.linalg.inv(np.dot(J, J.T)), J)
print(np.dot(pseudoInv, T1))
print(np.dot(pseudoInv, T2))

```

Output

```

ak@ubuntu16:~/Dynamics$ python3 Constraints.py
#####
                Question 1a
#####

[[ 1.04      0.      -0.04      ]
 [ 0.        0.07692308  0.        ]
 [-0.04      0.        0.04      ]]
#####
                Question 1c
#####
pseudoInv = np.dot(np.linalg.inv(np.dot(J, J.T)), J)
[1.  2.  1.]
print(np.dot(pseudoInv, T1))
[1.  2.15384615  1.  ]
print(np.dot(pseudoInv, T2))

```