

# Verificación de multiplicación de matrices en cálculo de logTheta

## Verificación

```
import numpy as np

nSubjects = 5
nFixed = 4

alpha_vec = np.random.normal(size = nSubjects * nFixed)
alpha_vec = alpha_vec.reshape(nFixed, nSubjects)

alpha_vec[0:5, 0:4]

array([[ -1.27172484, -0.88932883,  0.22766412,  1.21731503],
       [ 0.64187066,  0.71427111,  0.58768296, -0.33746361],
       [-1.99344977,  0.31623077, -0.16216002, -0.7149638 ],
       [ 0.34334607, -0.97853741, -1.41406672,  0.32066429]])

rho = np.array([
    (1.0, 0.2, 0.3, 0.4),
    (0.2, 1.0, 0.3, 0.4),
    (0.3, 0.3, 1.0, 0.4),
    (0.4, 0.4, 0.4, 1.0)
])

L = np.linalg.cholesky(rho)

L[0:4, 0:4]
```

```
L_original = np.dot(L, alpha_vec)
L_original
```

```
L_nuevo = np.zeros((nFixed, nSubjects))
```

```
for i in range(5):
    L_nuevo[:, i] = np.dot(L, alpha_vec[:,i])
```

```
L_nuevo
```

```
array([[ -1.27172484, -0.88932883,  0.22766412,  1.21731503,  0.44663831],
       [ 0.37455728,  0.52197414,  0.62134218, -0.08718246,  0.56467503],
       [-2.06216176,  0.19971169,  0.06274742, -0.37663091,  1.54051679],
       [-0.44706215, -0.86448838, -0.92361208,  0.48725714,  0.07658773]])
```

Se adicionan opciones al ejecutable de la siguiente manera:

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The `echo: false` option disables the printing of code (only output is displayed).