

# Import notebook functions

```
from notebookfuncs import *
```

```
from GenExact import *  
import numpy as np
```

```
# Define a vector of means and a matrix of covariances  
mean = np.array([3, 3])  
Sigma = np.array([[1, 0.70],  
                  [0.70, 1]])
```

```
array([[1. , 0.7],  
       [0.7, 1. ]])
```

```
rng = np.random.RandomState(0)  
x1 = gen_exact(mean=mean, sigma=Sigma, size=(100), rng=rng);
```

```
np.cov(x1, rowvar=False, bias=True)
```

```
array([[1. , 0.7],  
       [0.7, 1. ]])
```

```
np.mean(x1)
```

```
3.0
```

```
rng = np.random.RandomState(0)  
x2 = gen_inexact(mean=mean, sigma=Sigma, size=(100), rng=rng);
```

```
np.cov(x2,rowvar=False,bias=True)
```

```
array([[1. , 0.7],  
       [0.7, 1. ]])
```

```
np.mean(x2)
```

```
2.936323586052903
```

```
np.allclose(x1,x2)
```

```
False
```

```
allDone();
```

```
<IPython.lib.display.Audio object>
```