Orthogonalizing three vectors

In [8]:

```
#keep
import numpy as np
import numpy.linalg as la
```

In [9]:

```
#keep
np.random.seed(13)
xorig = np.random.randn(200)
yorig = np.random.randn(200)
zorig = np.random.randn(200)
```

Orthonormalize x and y as we know:

In [10]:

```
x = xorig/la.norm(xorig)
```

In [11]:

```
y = yorig
y = y - x.dot(y)*x
y = y / la.norm(y)
```

Check:

In [12]:

```
#keep
print(la.norm(x))
print(la.norm(y))
print(x.dot(y))
```

```
1.0
1.0
6.93889390391e-18
```

Now what to with z?

In [13]:

```
z = zorig
z = z - np.dot(z, x)*x - np.dot(z,y)*y
z = z / la.norm(z)
```

Check:

In [14]:

```
#keep
print(la.norm(z))
print(x.dot(z))
print(y.dot(z))
```

```
1.0
-4.85722573274e-17
-1.73472347598e-17
```

In [ ]:

In [ ]: