

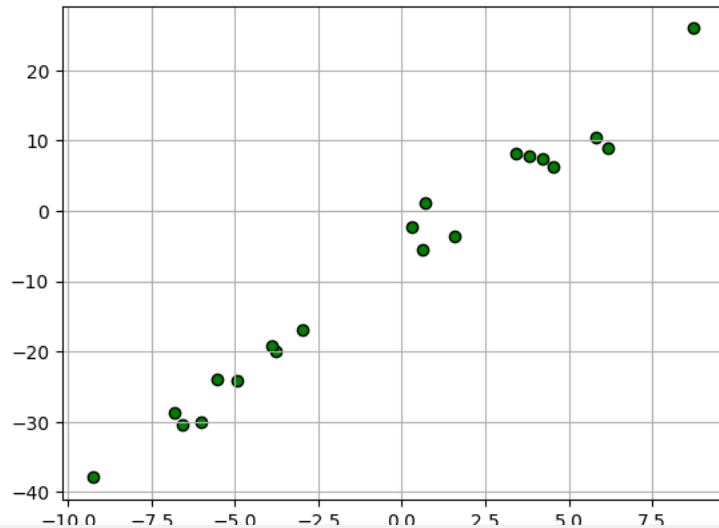
```
from scipy import linspace, polyval, polyfit, sqrt, stats, randn, optimize
import statsmodels.api as sm
import matplotlib.pyplot as plt
import time
import numpy as np
%matplotlib inline
```

```
n=int(5e6)
t=np.linspace(-10,10,n)
a=3.25; b=-6.5
x=polyval([a,b],t)
xn=x+3*randn(n)
```

```
<ipython-input-3-614e2ab7b4d4>:4: DeprecationWarning: scipy.polyval is deprecated and will be removed in SciPy 2.0.0, use numpy.poly
x=polyval([a,b],t)
<ipython-input-3-614e2ab7b4d4>:5: DeprecationWarning: scipy.randn is deprecated and will be removed in SciPy 2.0.0, use numpy.random
xn=x+3*randn(n)
```

```
xvar=np.random.choice(t,size=20)
yvar=polyval([a,b],xvar)+3*randn(20)
plt.scatter(xvar,yvar,c='green',edgecolors='k')
plt.grid(True)
plt.show()
```

```
<ipython-input-5-8c3e5703ab08>:2: DeprecationWarning: scipy.polyval is deprecated and will be removed in SciPy 2.0.0, use numpy.poly
yvar=polyval([a,b],xvar)+3*randn(20)
<ipython-input-5-8c3e5703ab08>:2: DeprecationWarning: scipy.randn is deprecated and will be removed in SciPy 2.0.0, use numpy.random
yvar=polyval([a,b],xvar)+3*randn(20)
```



```
a1= 2.5
b1= 7
x1=np.random.choice(t,size=15)
y1=polyval([a1,b1],x1)
plt.scatter(x1,y1,c='green',edgecolors='k')
plt.grid(True)
plt.show()
```

```
<ipython-input-7-b08850404e92>:4: DeprecationWarning: scipy.polyval is deprecated and  
y1=polyval([a1,b1],x1)
```

