STEP #1 - Importing the libraries

```
In [91]:    1  import numpy as np
            2  import matplotlib.pyplot as plt
            3  %matplotlib inline
```
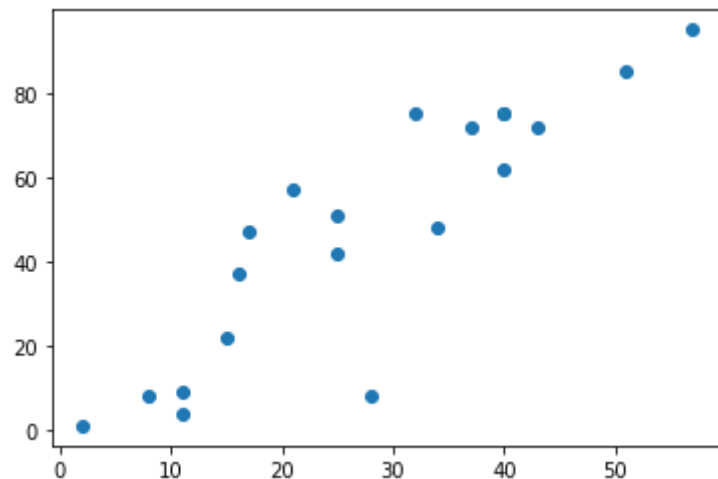
Step #2 - Getting the data

```
In [83]:    1  x= [28, 8, 11, 37, 15, 25, 51, 11, 32, 34, 43, 2, 40, 16, 40, 25, 40, 17, 21, 57]
            2  y= [8, 8, 9, 72, 22, 51, 85, 4, 75, 48, 72, 1, 62, 37, 75, 42, 75, 47, 57, 95]
            3
```

Step #3 - Plot the feature (x) and target (y) values onto the scatter plot for visually understand

```
In [84]:    1  plt.scatter(x,y)
```

Out[84]:   <matplotlib.collections.PathCollection at 0x7f663b24ca00>

Step #4 - Machine Learning: Linear Regression (line fitting)

```
In [85]:   1  model = np.polyfit(x, y, 1)
```

Step #5 - The result

```
In [86]:   1  model
```

Out[86]: `array([ 1.75505212, -1.27719099])`

```
In [92]:   1  predict = np.poly1d(model)
           2  x_value = 20
           3  predict(x_value)
```

Out[92]: `33.82385131766588`
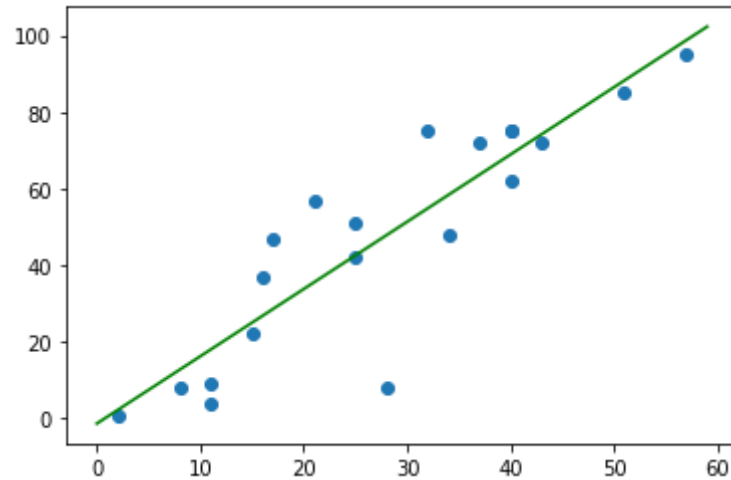
```
In [93]:   1  from sklearn.metrics import r2_score
           2  r2_score(y, predict(x))
```

Out[93]: `0.7863928070189841`

Step #6 - Data visualization

In [90]:
```python
x_axis = range(0, 60)
y_axis = predict(x_axis)
plt.scatter(x, y)
plt.plot(x_axis, y_axis, c = 'g')
```

Out[90]: [<matplotlib.lines.Line2D at 0x7f663adf4e20>]

In [ ]:
```python

```