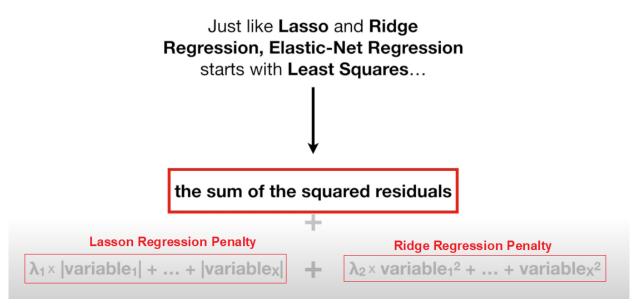
## 当参数有成千上万个时,可以使用Elastic Net Regression

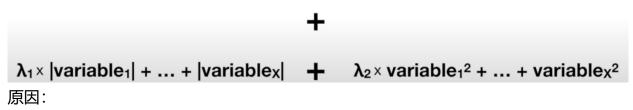


注意,有两个不同的λ。当λ1等于0,λ2大于0时,就是ridge regression。反之为lasso regression。当λ1和λ2都等于0时,就是least suqare。

Elastic Net Regression的优点:

The hybrid **Elastic-Net Regression** is especially good at dealing with situations when there are correlations between parameters.

## the sum of the squared residuals



This is because on it's own, **Lasso Regression** tends to pick just one of the correlated terms and eliminates the others...

the sum of the squared residuals



 $\lambda_1 \times |variable_1| + ... + |variable_X|$ 

...whereas **Ridge Regression** tends to shrink all of the parameters for the correlated variables together.

the sum of the squared residuals



 $\lambda_2 \times \text{variable}_{1^2} + \dots + \text{variable}_{X^2}$