

La class de la Regression Lineaire Manuel

```
1  import numpy as np
2
3  class RLM:
4
5      def __init__(self,lr,ite,scaler):
6          self.lr = lr
7          self.ite = ite
8          self.theta = None
9          self.scaler = scaler
10         self.x_scaled = None
11
12     def scaling(self,x):
13         ss = self.scaler
14         x = np.array(x).reshape(1,-1)
15         self.x_scaled = ss.transform(x)
16
17     def predict(self,x):
18         y = x.dot(self.theta)
19         return y
20
21     def fonction_cout(self,x,y):
22         m = len(y)
23         pred = self.predict(x)
24         erreur = pred - y
25         cout = (1/(2*m)) * ((erreur.T).dot(erreur))
26         return cout[0][0]
27
28     def fit(self,x,y):
29         m = len(y)
30         self.theta = np.random.randn(x.shape[1],1)
31         for i in range(self.ite):
32             pred = self.predict(x)
33             erreur = pred - y
34             derive = (1/m) * (x.T.dot(erreur))
35
36             self.theta = self.theta - self.lr * derive
```