

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
```