

In [50]:

```
1 from sklearn.linear_model import LinearRegression
2 lr=LinearRegression()
3 lr.fit(X_train, y_train)
```

Out[50]:

LinearRegression()

In [51]:

```
1 preds=lr.predict(X_test )
2 preds
```

Out[51]:

```
array([ 0.58818248,  1.82415214,  1.75035299,  2.88288036,  1.62318216,
        2.60254899,  1.41618596,  1.91877932, -0.09573825, -0.21421173,
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        2.47199176,  1.4741242 ,  1.84136057,  2.16961979,  2.85331983,
        2.24841953,  2.6472683 ,  0.26153926, -0.12090612,  0.87318424,
        0.47074503,  0.27548006, -0.00505636,  0.19532002,  1.13155179,
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        0.78613947,  1.35515181,  1.10027979,  1.77408844,  3.07384329,
        1.4629077 ,  2.3186361 ,  1.89913094,  0.78290014,  0.23431017,
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        0.84196367,  2.99509459,  2.83930378,  2.67138641,  1.43009796,
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        2.9949579 ,  0.98310054,  1.2421977 , -0.3185788 ,  1.37166214,
        0.56997886, -0.33709424,  2.18646234, -0.05290714,  1.81908137,
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        1.36802116,  2.8147585 , -0.32147324,  1.48088207,  2.38342767,
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        1.03258085,  2.44871877,  0.56840611,  1.75041366,  1.16666125,
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        2.68540243, -0.11284311,  0.49415146,  1.10280022,  0.20700862,
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```

```

1.16619639, 2.09406264, 1.5057153 , 0.49555463, 0.54870068,
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2.12505321, 1.23067929, 1.07472903, 2.39800348, 2.5414606 ,
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0.86848572, 2.3671069 , 0.44740326, 1.74792096, 2.91096826,
3.00508911, 0.96209661, 0.34952577, 0.43933193, 0.36294028,
-0.29542185, 2.40492535, 2.85519678, 1.12855852, 2.7812262 ,
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3.38509353, 0.56705451, -0.65462441, 1.71693104, 2.19319046,
2.45383792, 0.53179431, 1.5784931 , 1.87377518, 0.24579903])

```

In [52]:

```

1 # retour au test.csv
2 dft.head()

```

Out[52]:

	id	battery_power	blue	clock_speed	dual_sim	fc	four_g	int_memory	m_dep	mobile_wt
0	1	1043	1	1.8	1	14	0	5	0.1	193
1	2	841	1	0.5	1	4	1	61	0.8	191
2	3	1807	1	2.8	0	1	0	27	0.9	186
3	4	1546	0	0.5	1	18	1	25	0.5	96
4	5	1434	0	1.4	0	11	1	49	0.5	108

5 rows × 21 columns

In [53]:

```
1 # sans compter la 1ère colonne
2 predt=lr.predict(dft.drop('id', axis=1))
3 predt
```

Out[53]:

```
array([ 2.50883263e+00,  2.87989950e+00,  2.14844694e+00,  3.43977805e+00,
        1.24696405e+00,  2.74099010e+00,  3.57846240e+00,  1.01709872e+00,
        2.61425050e+00,  1.31181916e-03,  3.34678317e+00,  3.21180892e+00,
       -1.18076932e-02,  4.31602512e-01,  1.99770214e+00,  4.36139198e-01,
        1.88343584e+00,  1.16755315e+00,  3.11185049e+00,  1.59825340e+00,
        7.97397033e-01,  2.48614093e+00,  1.32109854e+00,  1.32081164e+00,
        3.19431650e+00,  2.71927083e-02,  2.04695701e+00, -3.44412163e-01,
        2.62805038e+00,  4.06415649e-02,  2.16280246e+00,  2.13950004e-01,
        2.84582156e+00,  1.93636932e-01,  5.48663486e-01,  9.72005643e-01,
        2.77195881e+00,  1.21900904e+00,  2.16387545e+00,  9.53917132e-01,
        1.09759815e+00,  1.73748505e+00, -3.99622402e-01, -3.56458507e-01,
        4.05275273e-04,  8.74976993e-01,  3.75447859e-01,  2.60299414e+00,
        1.05382235e+00,  2.15539201e+00,  1.38975774e+00, -5.71754498e-03,
        2.33163862e+00,  4.07984847e-01,  3.12809132e+00,  6.67434961e-01,
        3.05549475e+00,  1.08203021e+00,  7.10295027e-01,  3.14308419e+00,
        3.18164183e+00,  2.52382677e+00,  2.44608828e-01,  1.44291148e+00,
        6.37488050e-01,  1.10412698e+00,  1.41791822e+00,  2.44023139e+00,
        9.45163761e-01,  1.69363777e+00,  1.06808811e+00,  1.96410683e+00.]
```

In [54]:

```
1 #accuracy_score(y_true=y_test, y_pred=preds)
2 #Classification metrics can't handle a mix of multiClass and continuous targets
```

In [55]:

```
1 from sklearn.metrics import mean_absolute_error
2 from sklearn.metrics import r2_score
3 lr_mae = mean_absolute_error(y_test , preds)
4 lr_mse = mean_squared_error(y_test, preds)
5 lr_rse = mean_squared_error(y_test, preds , squared=False)
6 lr_r2 = r2_score(y_test , preds)
```

In [56]:

```
1 print('Linear Regression model Mean Absolute Error:', lr_mae)
2 print('Linear Regression model Mean squared Error:', lr_mse)
3 print('Linear Regression model Squared Error:', lr_rse)
4 print('Linear Regression model R2 Score:',lr_r2)
```

Linear Regression model Mean Absolute Error: 0.26278042712698946

Linear Regression model Mean squared Error: 0.0996739255532883

Linear Regression model Squared Error: 0.3157117760763578

Linear Regression model R2 Score: 0.9208053229620056

Logistic Regression