Regresion polinomial

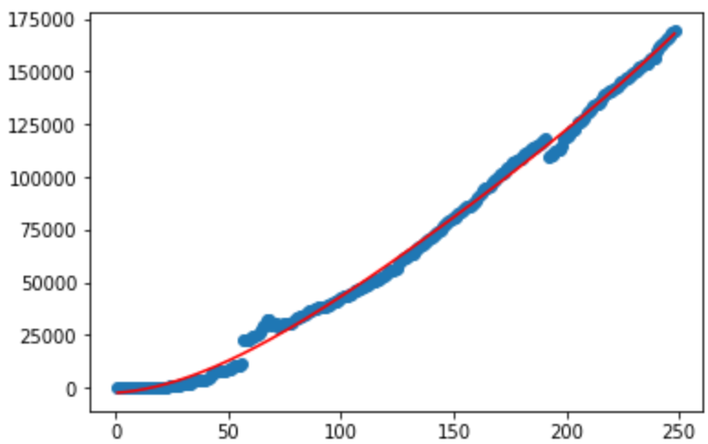
Importacion

In [19]:
```
import numpy as np
import matplotlib.pyplot as plt
from sklearn.linear_model import LinearRegression
import pandas as pd
from datetime import datetime,timedelta
import matplotlib.pyplot as plt
%matplotlib inline
from pylab import *
import sympy as sp
import matplotlib.pyplot as plt
df = pd.read_csv('covid.csv').fillna(0)
ndf= df.loc[(df[' Country'] == 'Ecuador') & (df[' Cumulative_cases'] != 0)]
ndf1=ndf[['Date_reported',' Cumulative_cases',' Cumulative_deaths']]
x=np.arange(1,len(ndf1)+1,1, dtype='float')
y=np.array(ndf1.values[:,1], dtype='float')
y1=np.array(ndf1.values[:,2],dtype='float')
```

Interpretacion caso personas infectadas

In [20]:
```
fun1 = np.poly1d(np.polyfit(x, y, 4))
print(fun1)
plt.scatter(x, y)
plt.plot(x, fun1(x), c='red')
plt.show()
```

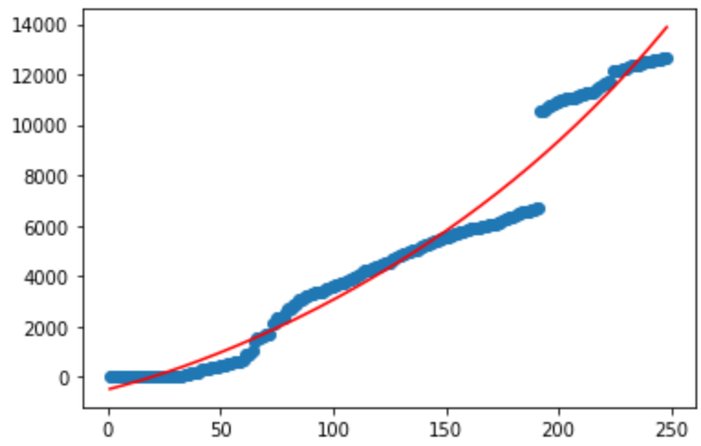
```
           4           3         2
3.432e-05 x - 0.02121 x + 5.631 x + 71.88 x - 2535
```



Interpretacion caso personas muertas

In [21]:
```
fun1 = np.poly1d(np.polyfit(x, y1, 4))
print(fun1)
plt.scatter(x, y1)
plt.plot(x, fun1(x), c='red')
plt.show()
```

```
           4             3          2
1.086e-06 x - 0.0002943 x + 0.1493 x + 22.54 x - 511
```



Conclusion

Se puede apreciar claramente que en Ecuador las infecciones por covid siguen en una curva ascendente