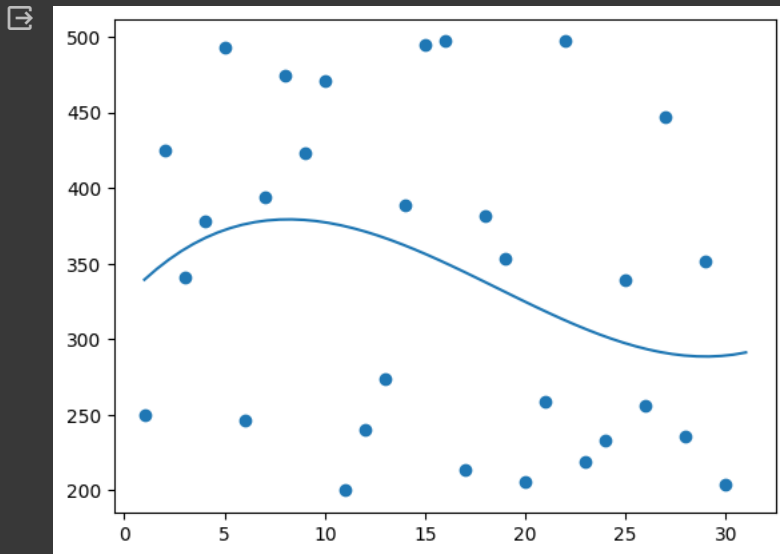


Polynomial regression

$x[]$ is days

$y[]$ is no. of cases

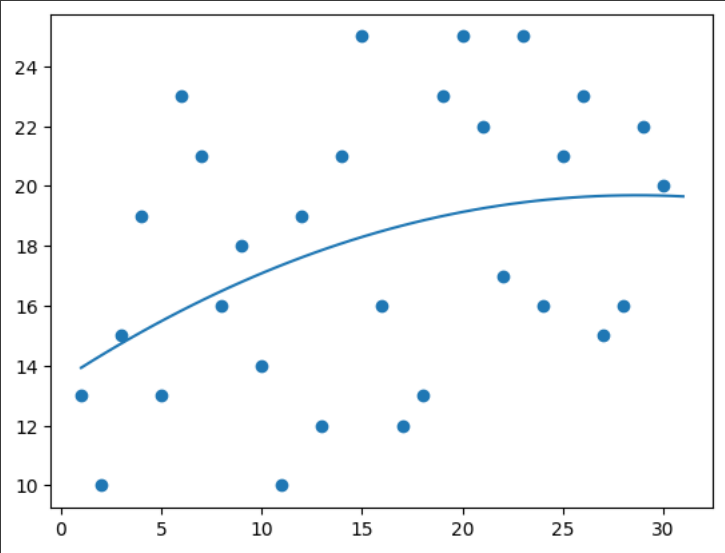
```
from numpy.lib.polynomial import polyfit
import matplotlib.pyplot as plt
import numpy as np
x= [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30]
y = [250, 425, 341, 378, 493, 246, 394, 474, 423, 471, 200, 240, 274, 389, 495, 497, 214, 382, 353, 206, 259, 497, 219, 233, 339, 256, 441]
a=np.poly1d(polyfit(x,y,3))
b= np.linspace(1,31)
plt.scatter(x,y)
plt.plot(b,a(b))
plt.show()
test = a(5)
print(test)
```



372.29462892605295

```
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd

data = pd.read_csv("test.csv")
x = data['Day']
y=data['Accident']
a=np.poly1d(np.polyfit(x,y,3))
b= np.linspace(1,31)
plt.scatter(x,y)
plt.plot(b,a(b))
plt.show()
test = a(5)
print(f"Day 5 Acutal is : {data['Accident'][4]} accidents")
print(f"Day 5 Predicted is : {round(test)} accidents")
```



Day 5 Acutal is : 13 accidents
Day 5 Predicted is : 15 accidents