In [1]:
```
# Import the libraries
import numpy as np
import pandas as pd
```

In [2]:
```
# Read the Data
data = pd.read_csv("D:/Python/austin_weather.csv")
data
```

Out[2]:

	Date	TempHighF	TempAvgF	TempLowF	DewPointHighF	DewPointAvgF	DewPoin
0	2013-12-21	74	60	45	67	49	
1	2013-12-22	56	48	39	43	36	
2	2013-12-23	58	45	32	31	27	
3	2013-12-24	61	46	31	36	28	
4	2013-12-25	58	50	41	44	40	
...	...	...	...	...	...	...	
1314	2017-07-27	103	89	75	71	67	
1315	2017-07-28	105	91	76	71	64	
1316	2017-07-29	107	92	77	72	64	
1317	2017-07-30	106	93	79	70	68	
1318	2017-07-31	99	88	77	66	61	

1319 rows × 21 columns

In [3]:
```
# Drop the unnecessary Columns
data = data.drop(["Events", "Date", "SeaLevelPressureLowInches"], axis = 1)
```

In [4]:
```
data = data.replace('T', 0.0)
```

In [5]:
```
data = data.replace('-', 0.0)
```

In [6]:
```
data
```

Out[6]:

	TempHighF	TempAvgF	TempLowF	DewPointHighF	DewPointAvgF	DewPointLowF
0	74	60	45	67	49	43
1	56	48	39	43	36	28
2	58	45	32	31	27	23
3	61	46	31	36	28	21
4	58	50	41	44	40	36
...	...	...	...	...	...	...
1314	103	89	75	71	67	61
1315	105	91	76	71	64	55
1316	107	92	77	72	64	55
1317	106	93	79	70	68	63
1318	99	88	77	66	61	54

1319 rows × 18 columns

In [7]:
```
data.to_csv("D:/Python/austin_weather_final.csv")
```

In [8]:
```
# Import the libraries
import numpy as np
import pandas as pd
import sklearn as sk
from sklearn.linear_model import LinearRegression
from sklearn import linear_model
import matplotlib.pyplot as plt
```

In [9]:
```
data = pd.read_csv("D:/Python/austin_weather_final.csv")
data
```

Out[9]:

	Unnamed: 0	TempHighF	TempAvgF	TempLowF	DewPointHighF	DewPointAvgF	Dew
0	0	74	60	45	67.0	49.0	
1	1	56	48	39	43.0	36.0	
2	2	58	45	32	31.0	27.0	
3	3	61	46	31	36.0	28.0	
4	4	58	50	41	44.0	40.0	
...	...	...	...	...	...	...	
1314	1314	103	89	75	71.0	67.0	
1315	1315	105	91	76	71.0	64.0	
1316	1316	107	92	77	72.0	64.0	
1317	1317	106	93	79	70.0	68.0	
1318	1318	99	88	77	66.0	61.0	

1319 rows × 19 columns

In [10]:
```
X = data.drop(['PrecipitationSumInches'], axis =1)
```

In [11]:
```
Y = data["PrecipitationSumInches"]
```

In [12]:
```
# Reshaping it into second Vector
Y = Y.values.reshape(-1,1)
```

In [13]:
```
Y
```

Out[13]:
```
array([[0.46],
       [0.  ],
       [0.  ],
       ...,
       [0.  ],
       [0.  ],
       [0.  ]])
```

In [14]:
```
day_index = 798
days = [ i for i in range(Y.size)]
```

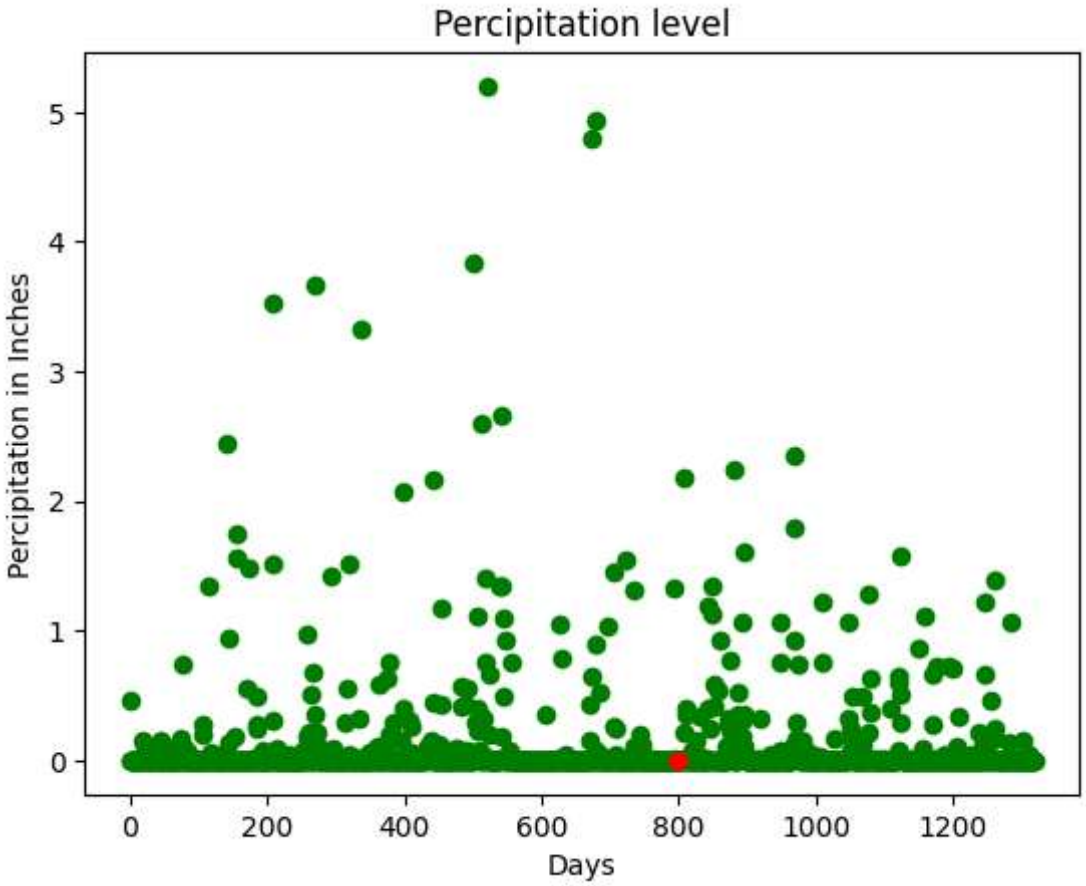
In [15]:
```
# Initialise the Linear Regression Classifier
clf = LinearRegression()
```

In [16]:
```
# Train the Classifier
clf.fit(X,Y)
```

Out[16]:
```
▾ LinearRegression
LinearRegression()
```

In [17]:
```
# Plot a Graph
print("The Percipitation Trend Graph")
plt.scatter(days, Y, color = 'g')
plt.scatter(days[day_index], Y[day_index], color = 'r')
plt.title("Percipitation level")
plt.xlabel("Days")
plt.ylabel("Percipitation in Inches")
plt.show()
x_vis = X.filter(['TempAvgF', 'DewPointAvgF', 'HumidityAvgPercent', 'SeaLevelPressu
```

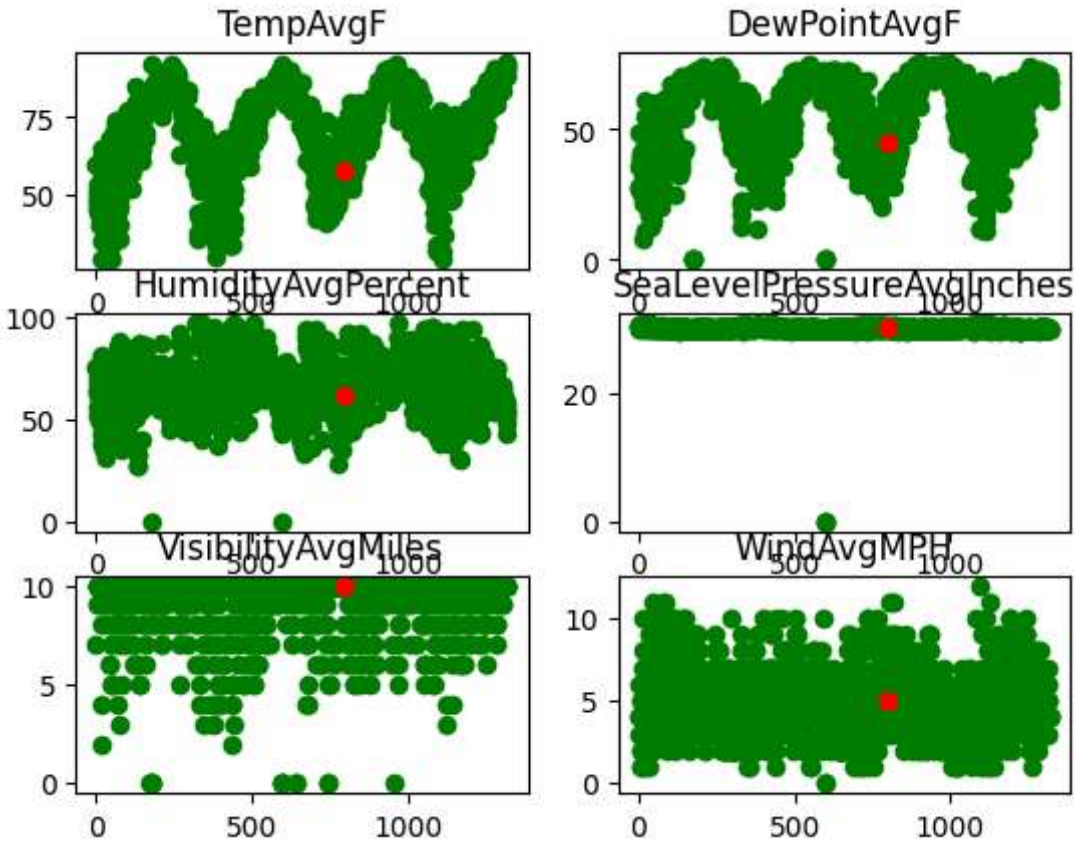
```
The Percipitation Trend Graph
```



In [18]:
```
print("Percipitation VS Attribute Trend Graph")

for i in range(x_vis.columns.size):
    plt.subplot(3,2,i+1)
    plt.scatter(days, x_vis[x_vis.columns.values[i][:100]], color = 'g')
    plt.scatter(days[day_index], x_vis[x_vis.columns.values[i]][day_index], color =
    plt.title(x_vis.columns.values[i])
plt.show()
```

```
Percipitation VS Attribute Trend Graph
```


TempAvgF
DewPointAvgF
HumidityAvgPercent
SeaLevelPressureAvgInches
VisibilityAvgMiles
WindAvgMPH
0
500
1000
75
50
100
20
10
5

In [ ]: