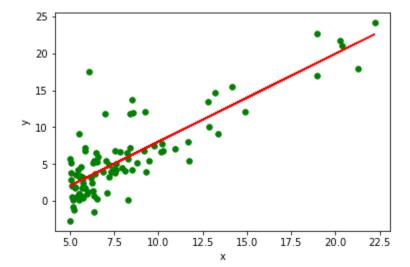```
In [1]: import pandas as pd
        import numpy as np
        import matplotlib.pyplot as plt
```

```
In [2]: header_list = ["x","y"]
        df = pd.read_csv("./Food-Truck-LineReg.csv", names=header_list)
        df.head()
```

Out[2]:

	x	y
0	6.1101	17.5920
1	5.5277	9.1302
2	8.5186	13.6620
3	7.0032	11.8540
4	5.8598	6.8233

```
In [3]: df.tail()
```

Out[3]:

	x	y
92	5.8707	7.20290
93	5.3054	1.98690
94	8.2934	0.14454
95	13.3940	9.05510
96	5.4369	0.61705

```
In [6]: class LinearRegression():
            def __init__(self, df):
                self.x = np.array(df["x"])
                self.y = np.array(df["y"])
                self.n = np.size(self.x)
            def train(self):
                mean_x = np.mean(self.x)
                mean_y = np.mean(self.y)
                SS_xy = np.sum(self.y*self.x) - self.n*mean_y*mean_x
                SS_xx = np.sum(self.x*self.x) - self.n*mean_x*mean_x
                b1 = SS_xy / SS_xx
                b0 = mean_y - b1*mean_x
                self.y_pred = b0 + b1*self.x

            def plot_line(self):
                plt.scatter(self.x, self.y, color = "g",s = 30)
                plt.plot(self.x, self.y_pred, color = "r")
                plt.xlabel('x')
                plt.ylabel('y')
                plt.show()
```

```
In [7]: model = LinearRegression(df)
```

```
In [8]: model.train()
        model.plot_line()
```



```
In [ ]:
```