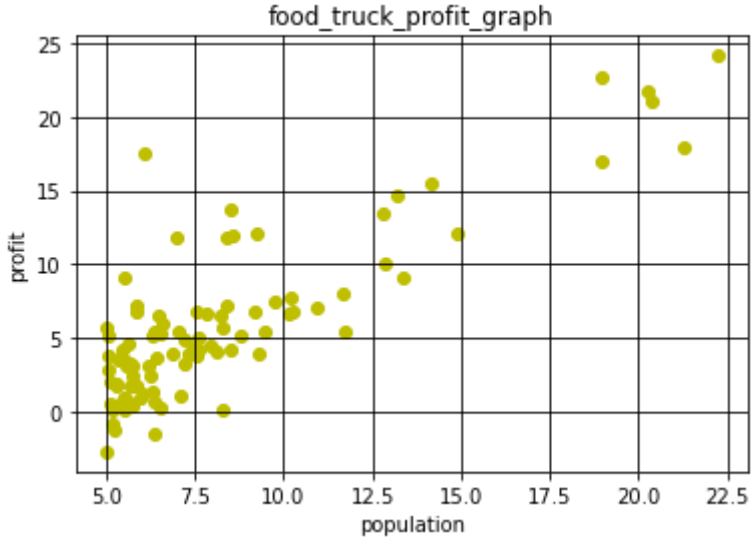
In [5]:
```
import numpy
from matplotlib import pyplot as plt
import pandas as pd
from sklearn.linear_model import LinearRegression
```

In [6]:
```
data=pd.read_csv("lab1.txt")
print(data.shape)
```

```
(97, 2)
```

In [7]:
```
x=data[['population']].values
y=data[['profit']].values
```

In [22]:
```
%matplotlib inline
plt.scatter(x,y,c='y',label='scatter_data')
plt.xlabel("population")
plt.ylabel('profit')
plt.title('food_truck_profit_graph')
plt.grid(True,color='k')
plt.show()
```



In [9]:
```
k = LinearRegression()
```

In [10]:
```
k.fit(x, y)
```

Out[10]:
```
LinearRegression()
```

In [11]:
```
print('c value:', k.intercept_)
```

```
c value: [-3.89578088]
```

In [12]:
```
print('m value:',k.coef_)
```

```
m value: [[1.19303364]]
```

In [13]:
```
y_pred = k.predict(x)
```

In [23]:
```
plt.scatter(x, y, color = 'green')
plt.plot(x,y_pred, color = 'blue')
plt.title('Salary vs Experience (Training set)')
plt.xlabel('Years of Experience')
plt.ylabel('Salary')
plt.show()
```

In [15]:
```
from sklearn.metrics import r2_score
r_sq = r2_score(y,y_pred)
r_sq
```

Out[15]:
```
0.7020315537841397
```

In [16]:
```
from sklearn.metrics import mean_squared_error
rmse = mean_squared_error(y, y_pred)
rmse
```

Out[16]:
```
8.953942751950358
```

In [17]:
```
n1=4.5
n2=6.5
print('profit from 45000 people city is ',k.predict([
 [n1]])*10000,'$')
print('profit from 65000 people city is ',k.predict([[n2]])*10000,'$')
```

```
profit from 45000 people city is  [[14728.70520541]] $
profit from 65000 people city is  [[38589.37808921]] $
```

In [ ]:
```

```