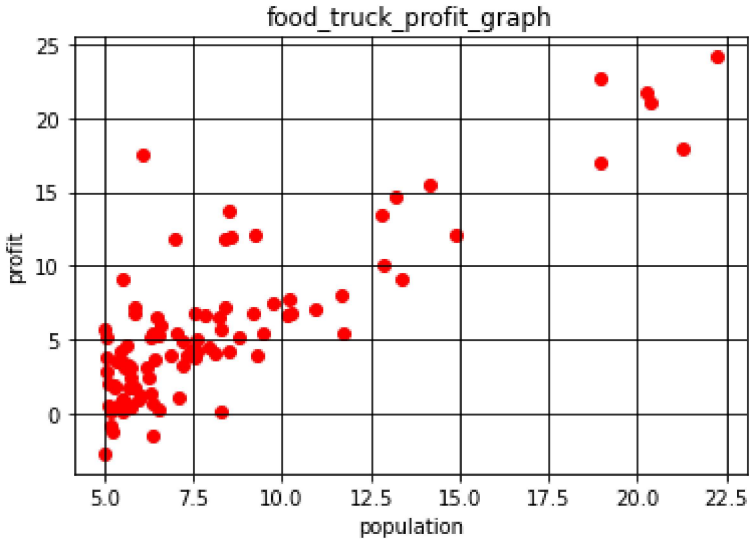
In [4]:

```
import numpy as np
from matplotlib import pyplot as plt
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
data=pd.read_csv("book3.txt")
print(data.shape)
```

```
(97, 2)
```

In [6]:

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



In [7]:

```
k=LinearRegression()
k.fit(x,y)
```

Out[7]:

```
LinearRegression()
```

In [8]:

```
print("c_value:",k.intercept_)
```

```
c_value: [-3.89578088]
```

In [9]:

```
print("\n value",k.coef_)
```

```
 value [[1.19303364]]
```

In [13]:

```
y_pred=k.predict(x)
plt.scatter(x,y,color='red')
plt.plot(x,y_pred,color='blue')
plt.title("salary vs experience")
plt.xlabel("years of experience")
plt.ylabel("salary")
plt.show()
```

In [14]:

```
from sklearn.metrics import mean_squared_error
rmse=mean_squared_error(y,y_pred)
rmse
```

Out[14]:

```
8.953942751950358
```

In [15]:

```
from sklearn.metrics import  r2_score
r_sq=r2_score(y,y_pred)
r_sq
```

Out[15]:

```
0.7020315537841397
```

In [16]:

```
n1=4.5
n2=6.5
print("profit from 4500 people city is:",k.predict([[n1]])*1000,'$')
print("profit from 4500 people city is:",k.predict([[n2]])*1000,'$')
```

```
profit from 4500 people city is: [[1472.87052054]] $
profit from 4500 people city is: [[3858.93780892]] $
```

In [ ]:

```

```