

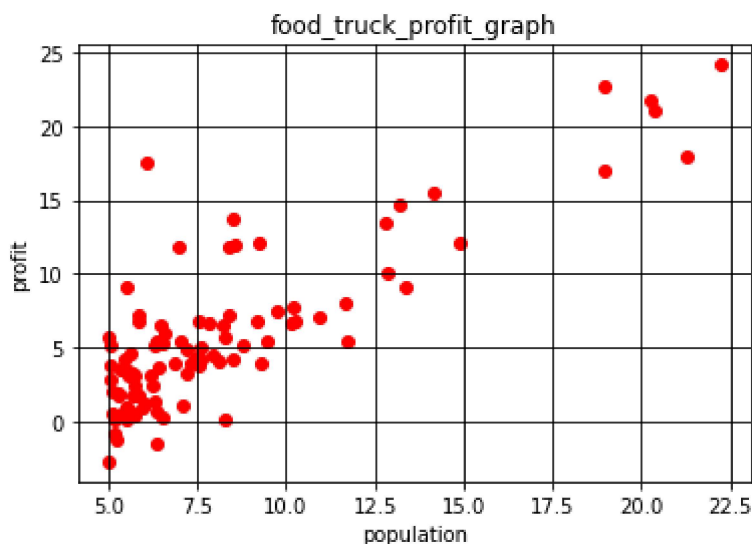
In [3]:

```
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("Book1.txt")
print(data.shape)
```

(97, 2)

In [4]:

```
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')
plt.show()
```



In [5]:

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

Out[5]:

LinearRegression()

In [6]:

```
print("c value:",k.intercept_)
```

c value: [-3.89578088]

In [7]:

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

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

In [11]:

```
y_pred=k.predict(x)
plt.scatter(x,y,color='red')
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 [9]:

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

Out[9]:

```
8.953942751950358
```

In [12]:

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

Out[12]:

```
0.7020315537841397
```

In [15]:

```

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]] $

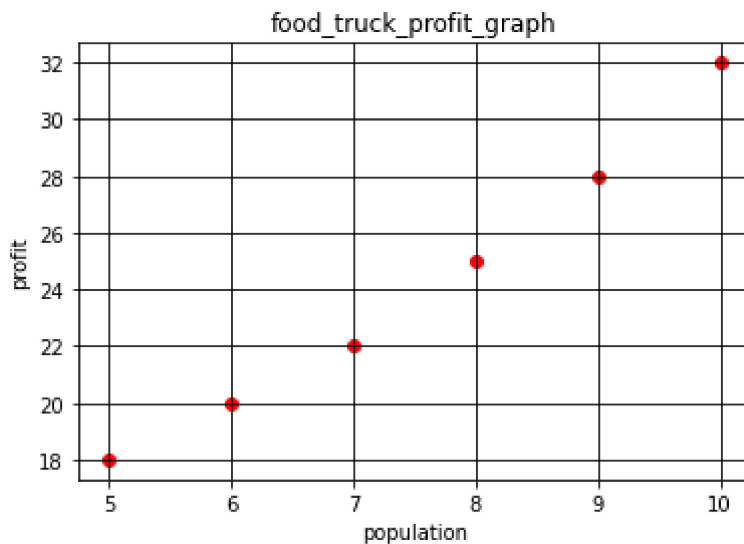
```

In [16]:

```

x=np.array([[5,6,7,8,9,10]])
y=np.array([[18,20,22,25,28,32]])
%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')
plt.show()

```



In [17]:

```

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

```

Out[17]:

```
LinearRegression()
```

In [18]:

```
print("c value:",k.intercept_)
```

```
c value: [18. 20. 22. 25. 28. 32.]
```

In [19]:

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

```
value: [[0. 0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0. 0.]
 [0. 0. 0. 0. 0. 0.]
```

In [20]:

```
y_pred=k.predict(x)
plt.scatter(x,y,color='red')
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 [21]:

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

Out[21]:

0.0

In []:

In []:

