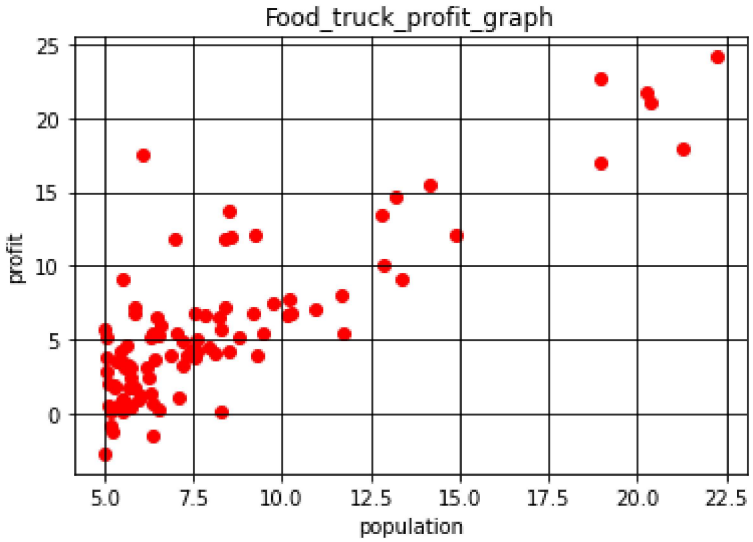
In [2]:

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

```
(97, 2)
```

In [5]:

```
x=data[['population']].values
y=data[['profit']].values
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 [6]:

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

Out[6]:

```
LinearRegression()
```

In [8]:

```
print('cvalue:',K.intercept_)
```

```
cvalue: [-3.89578088]
```

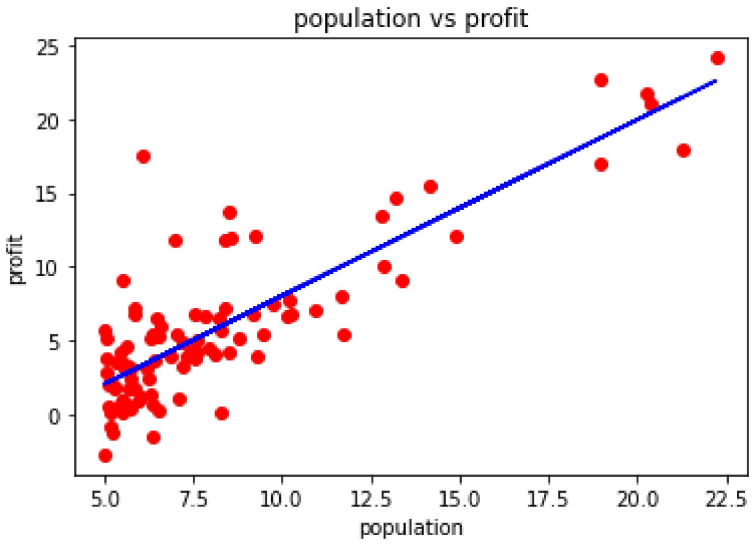
In [9]:

```
print('mvalue:',K.coef_)
```

```
mvalue: [[1.19303364]]
```

In [10]:

```
y_pred=K.predict(x)
plt.scatter(x,y,color='red')
plt.plot(x,y_pred,color='blue')
plt.title('population vs profit')
plt.xlabel('population')
plt.ylabel('profit')
plt.show()
```



In [15]:

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

Out[15]:

```
0.7020315537841397
```

In [17]:

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

Out[17]:

```
8.953942751950358
```

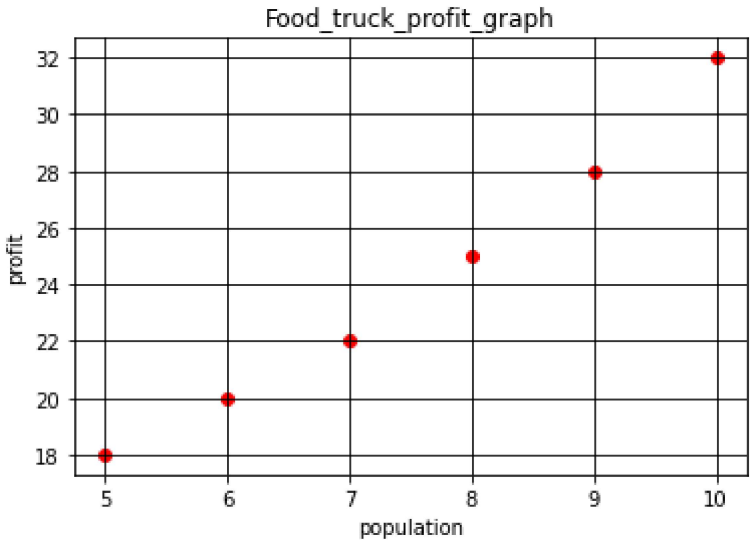
In [20]:

```
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 [21]:

```
x=np.array([5,6,7,8,9,10]) #age
y=np.array([18,20,22,25,28,32])
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()
```



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