```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
df=pd.read_csv('/content/adevrstising.csv')
df.head(10)
```

	TV	Radio	Newspaper	Sales
0	230.1	37.8	69.2	22.1
1	44.5	39.3	45.1	10.4
2	17.2	45.9	69.3	12.0
3	151.5	41.3	58.5	16.5
4	180.8	10.8	58.4	17.9
5	8.7	48.9	75.0	7.2
6	57.5	32.8	23.5	11.8
7	120.2	19.6	11.6	13.2
8	8.6	2.1	1.0	4.8
9	199.8	2.6	21.2	15.6

```
print(df.describe())
```

```
               TV       Radio   Newspaper       Sales
count  200.000000  200.000000  200.000000  200.000000
mean   147.042500   23.264000   30.554000   15.130500
std     85.854236   14.846809   21.778621    5.283892
min      0.700000    0.000000    0.300000    1.600000
25%     74.375000    9.975000   12.750000   11.000000
50%    149.750000   22.900000   25.750000   16.000000
75%    218.825000   36.525000   45.100000   19.050000
max    296.400000   49.600000  114.000000   27.000000
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 200 entries, 0 to 199
Data columns (total 4 columns):
 #   Column     Non-Null Count  Dtype
---  ------     --------------  -----
 0   TV         200 non-null    float64
 1   Radio      200 non-null    float64
 2   Newspaper  200 non-null    float64
 3   Sales      200 non-null    float64
dtypes: float64(4)
memory usage: 6.4 KB
```

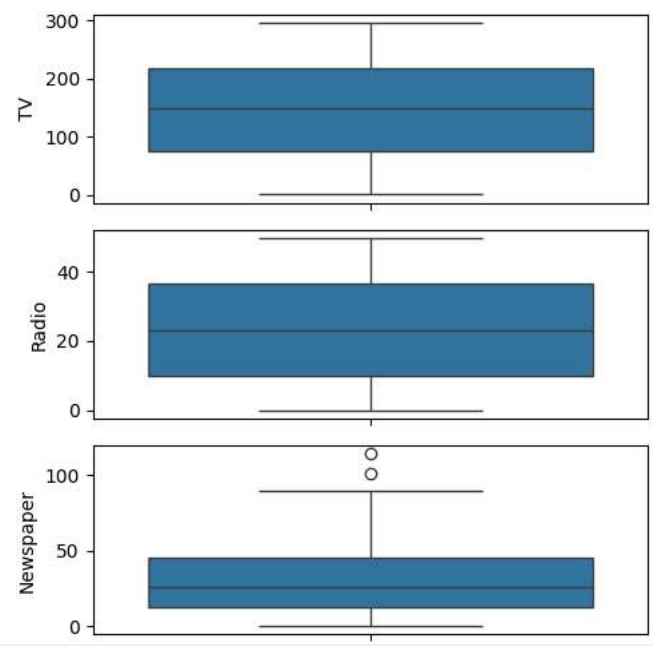
```
print(df.shape)
```

```
(200, 4)
```

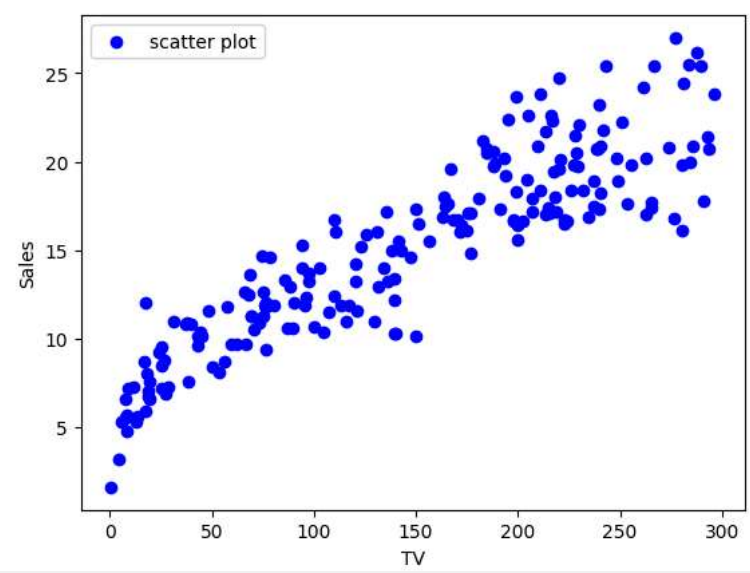
```
print(df.describe())
```

```
               TV       Radio   Newspaper       Sales
count  200.000000  200.000000  200.000000  200.000000
mean   147.042500   23.264000   30.554000   15.130500
std     85.854236   14.846809   21.778621    5.283892
min      0.700000    0.000000    0.300000    1.600000
25%     74.375000    9.975000   12.750000   11.000000
50%    149.750000   22.900000   25.750000   16.000000
75%    218.825000   36.525000   45.100000   19.050000
max    296.400000   49.600000  114.000000   27.000000
```

```
fig, axs=plt.subplots(3, figsize=(5,5))
plt1=sns.boxplot(df['TV'],ax=axs[0])
plt2=sns.boxplot(df['Radio'],ax=axs[1])
plt3=sns.boxplot(df['Newspaper'], ax=axs[2])
plt.tight_layout()
```




```
x=df['TV']
y=df['Sales']
plt.scatter(x,y,color='blue',label='scatter plot')
plt.xlabel('TV')
plt.ylabel('Sales')
plt.legend()
plt.show()
```




```
print(x.shape)
print(y.shape)
```

```
(200,)
(200,)
```

```
x=np.array(x)
y=np.array(y)
x=x.reshape(-1,1)
y=y.reshape(-1,1)
print(x.shape)
print(y.shape)
```

```
(200, 1)
(200, 1)
```

```
from sklearn.linear_model import LinearRegression
lm=LinearRegresion()
lm.fit(x_train,y_train)
y_pred=lm.predict(x_test)
```

Start coding or generate with AI.