bharath-task1

September 17, 2023

[1]:
```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

[3]:
```python
dataset = pd.read_excel('QVI_transaction_data_intern.xlsx')
```

[4]:
```python
dataset.head()
```

[4]:
```
    DATE  STORE_NBR  LYLTY_CARD_NBR  TXN_ID  PROD_NBR  \
0  43390          1            1000       1         5
1  43599          1            1307     348        66
2  43605          1            1343     383        61
3  43329          2            2373     974        69
4  43330          2            2426    1038       108

                                  PROD_NAME  PROD_QTY  TOT_SALES
0    Natural Chip        Compny SeaSalt175g         2        6.0
1                  CCs Nacho Cheese    175g         3        6.3
2    Smiths Crinkle Cut  Chips Chicken 170g         2        2.9
3    Smiths Chip Thinly  S/Cream&Onion 175g         5       15.0
4  Kettle Tortilla ChpsHny&Jlpno Chili 150g         3       13.8
```

1 Creating and interpreting high level summaries of the data

[5]:
```python
dataset.describe()
```

[5]:
```
                DATE      STORE_NBR  LYLTY_CARD_NBR        TXN_ID  \
count  264836.000000  264836.00000    2.648360e+05  2.648360e+05
mean    43464.036260     135.08011    1.355495e+05  1.351583e+05
std       105.389282      76.78418    8.057998e+04  7.813303e+04
min     43282.000000       1.00000    1.000000e+03  1.000000e+00
25%     43373.000000      70.00000    7.002100e+04  6.760150e+04
50%     43464.000000     130.00000    1.303575e+05  1.351375e+05
75%     43555.000000     203.00000    2.030942e+05  2.027012e+05
max     43646.000000     272.00000    2.373711e+06  2.415841e+06
```

```
            PROD_NBR       PROD_QTY      TOT_SALES
count  264836.000000  264836.000000  264836.000000
mean       56.583157       1.907309       7.304200
std        32.826638       0.643654       3.083226
min         1.000000       1.000000       1.500000
25%        28.000000       2.000000       5.400000
50%        56.000000       2.000000       7.400000
75%        85.000000       2.000000       9.200000
max       114.000000     200.000000     650.000000
```

2 Finding outliers and removing

[6]:

```
dataset.isnull().sum()
```

[6]:

```
DATE              0
STORE_NBR         0
LYLTY_CARD_NBR    0
TXN_ID            0
PROD_NBR          0
PROD_NAME         0
PROD_QTY          0
TOT_SALES         0
dtype: int64
```

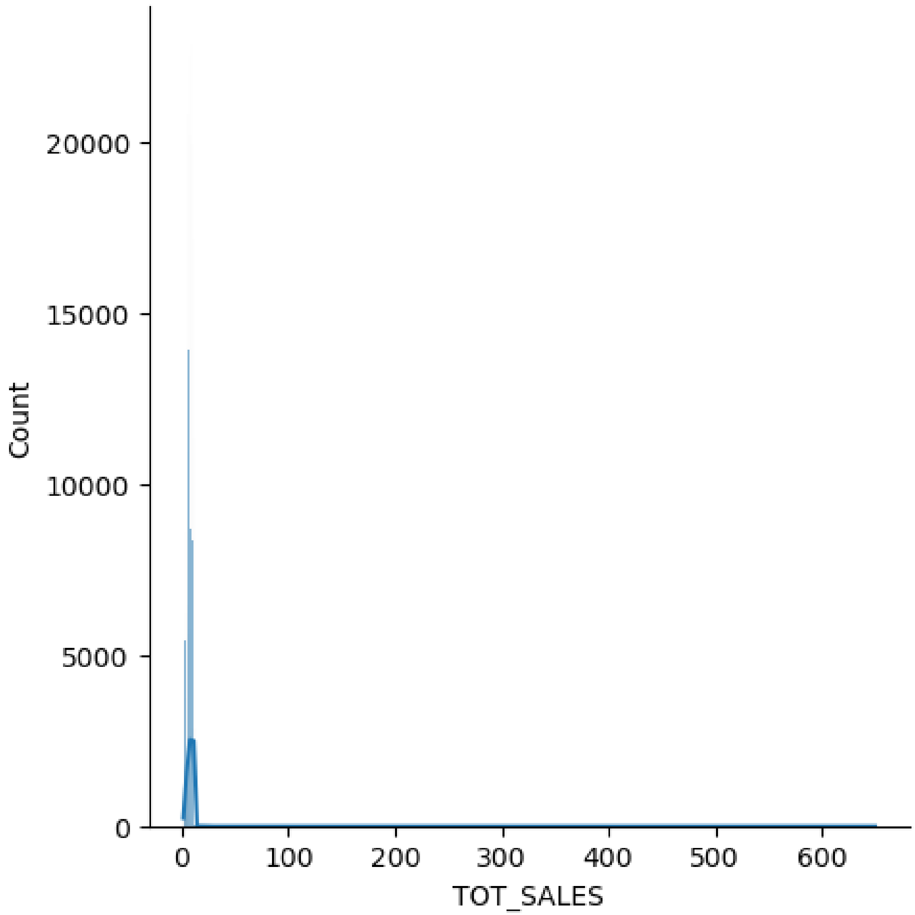
[13]:

```
sns.displot(dataset.TOT_SALES , kde = True)
```

```
C:\Users\byadh\anaconda3\Lib\site-packages\seaborn\axisgrid.py:118: UserWarning:
The figure layout has changed to tight
  self._figure.tight_layout(*args, **kwargs)
```

[13]:

```
<seaborn.axisgrid.FacetGrid at 0x15ed14ff090>
```



```
[10]: numericdata = dataset.select_dtypes(['float' , 'int'])
```

```
[11]: numericdata.head()
```

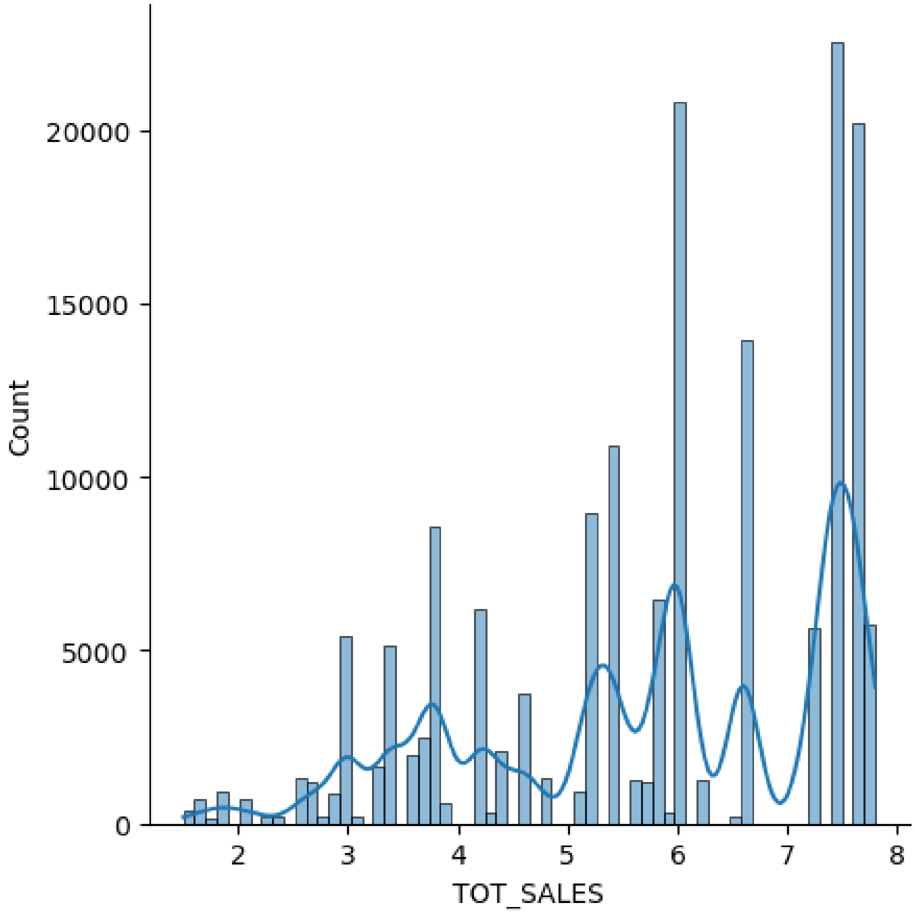
```
[11]:     DATE  STORE_NBR  LYLTY_CARD_NBR  TXN_ID  PROD_NBR  PROD_QTY  TOT_SALES
      0  43390          1            1000       1         5         2        6.0
      1  43599          1            1307     348        66         3        6.3
      2  43605          1            1343     383        61         2        2.9
      3  43329          2            2373     974        69         5       15.0
      4  43330          2            2426    1038       108         3       13.8
```

```
[19]: x = numericdata[numericdata['TOT_SALES'] < 8]
```

```
[21]: sns.displot(x.TOT_SALES, kde = True)
```

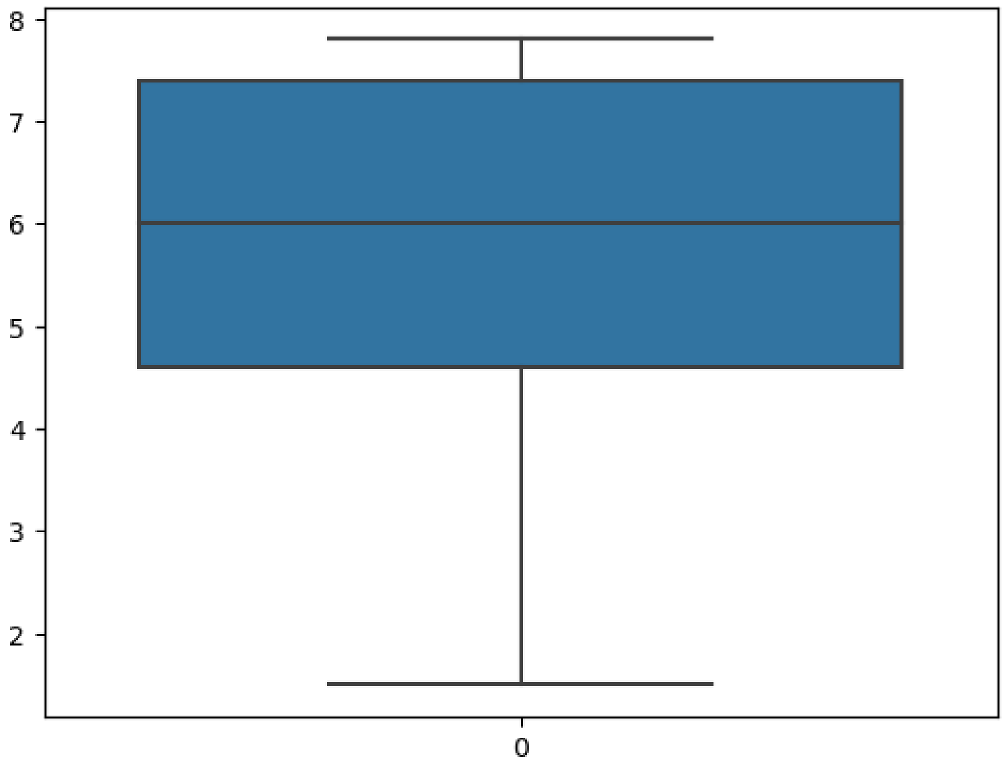
```
C:\Users\byadh\anaconda3\Lib\site-packages\seaborn\axisgrid.py:118: UserWarning:
The figure layout has changed to tight
  self._figure.tight_layout(*args, **kwargs)
```

```
[21]: <seaborn.axisgrid.FacetGrid at 0x15ef8917d10>
```



```
[22]: sns.boxplot(x.TOT_SALES)
```

```
[22]: <Axes: >
```



3 Checking data formats and correcting

[23]:
```
dataset.dtypes
```

[23]:
```
DATE                int64
STORE_NBR           int64
LYLTY_CARD_NBR      int64
TXN_ID              int64
PROD_NBR            int64
PROD_NAME          object
PROD_QTY            int64
TOT_SALES         float64
dtype: object
```

[ ]:
```

```