In [9]:

```
import pandas as pd
import numpy as np
import seaborn as sns
```

In [12]:

```
#import dataset
# Correct way to set the path
file_path = "QVI_transaction_data (2).csv"

# Read Excel file
transaction_data = pd.read_csv(file_path)
```

In [13]:

```
transaction_data.head()
```

Out[13]:

	DATE	STORE_NBR	LYLTY_CARD_NBR	TXN_ID	PROD_NBR	PROD_NAME	PROD_QTY	TOT_SALES
0	43390	1	1000	1	5	Natural Chip Compny SeaSalt175g	2	6.0
1	43599	1	1307	348	66	CCs Nacho Cheese 175g	3	6.3
2	43605	1	1343	383	61	Smiths Crinkle Cut Chips Chicken 170g	2	2.9
3	43329	2	2373	974	69	Smiths Chip Thinly S/Cream&Onion 175g	5	15.0
4	43330	2	2426	1038	108	Kettle Tortilla ChpsHny&Jlpno Chili 150g	3	13.8

In [15]:

```
#Read the customer data into a panda Dataframe
file_path = "QVI_purchase_behaviour.csv"
customer_data = pd.read_csv(file_path)
```

In [16]:

```
customer_data.head()
```

Out[16]:

	LYLTY_CARD_NBR	LIFESTAGE	PREMIUM_CUSTOMER
0	1000	YOUNG SINGLES/COUPLES	Premium
1	1002	YOUNG SINGLES/COUPLES	Mainstream
2	1003	YOUNG FAMILIES	Budget
3	1004	OLDER SINGLES/COUPLES	Mainstream
4	1005	MIDAGE SINGLES/COUPLES	Mainstream

SUMMARIZE DATASET

In [17]:
```
transaction_data.describe()
```

Out[17]:

	DATE	STORE_NBR	LYLTY_CARD_NBR	TXN_ID	PROD_NBR	PROD_QTY	TOT_SALES
count	264836.000000	264836.00000	2.648360e+05	2.648360e+05	264836.000000	264836.000000	264836.000000
mean	43464.036260	135.08011	1.355495e+05	1.351583e+05	56.583157	1.907309	7.304200
std	105.389282	76.78418	8.057998e+04	7.813303e+04	32.826638	0.643654	3.083226
min	43282.000000	1.00000	1.000000e+03	1.000000e+00	1.000000	1.000000	1.500000
25%	43373.000000	70.00000	7.002100e+04	6.760150e+04	28.000000	2.000000	5.400000
50%	43464.000000	130.00000	1.303575e+05	1.351375e+05	56.000000	2.000000	7.400000
75%	43555.000000	203.00000	2.030942e+05	2.027012e+05	85.000000	2.000000	9.200000
max	43646.000000	272.00000	2.373711e+06	2.415841e+06	114.000000	200.000000	650.000000

CHECK THE NULL

In [18]:
```
transaction_data.isnull().sum()
```

```
Out[18]: 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
```

CHECK THE DATA TYPE

```
In [19]: data_types = transaction_data.dtypes
         print(data_types)
```

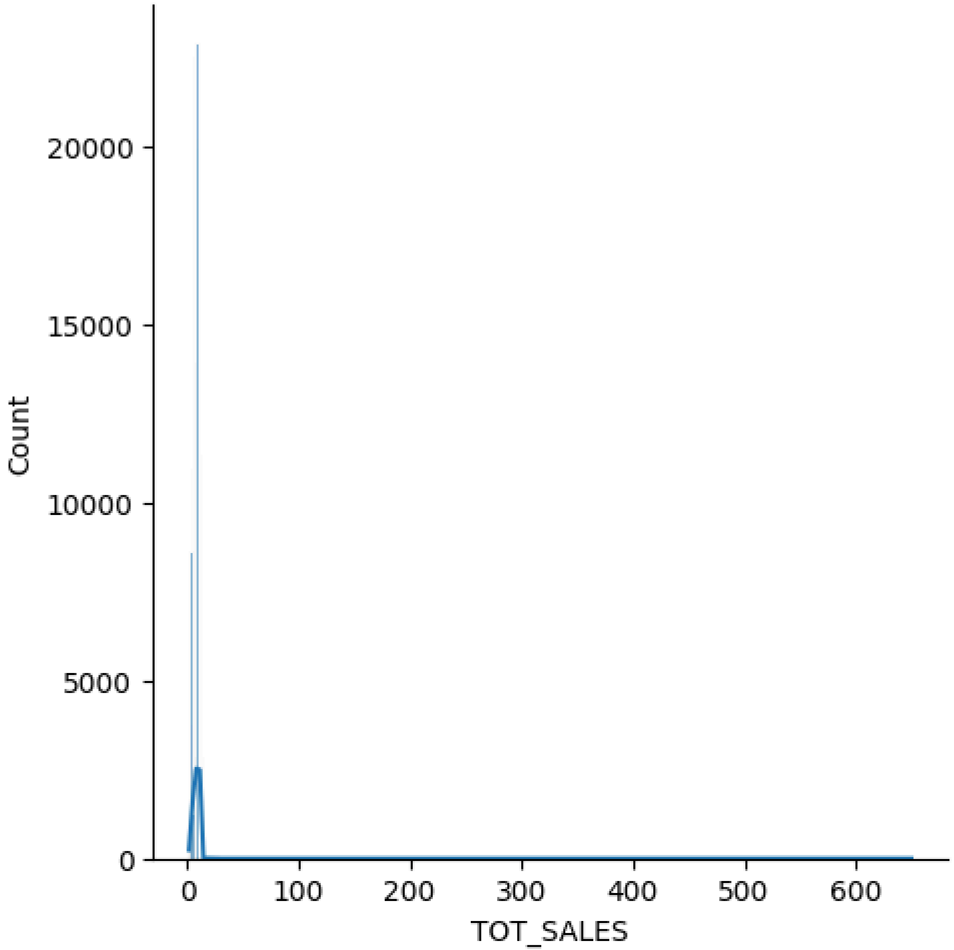
```
DATE                int64
STORE_NBR           int64
LYLTY_CARD_NBR      int64
TXN_ID              int64
PROD_NBR            int64
PROD_NAME          object
PROD_QTY            int64
TOT_SALES         float64
dtype: object
```

EXAMINE THE OUTLIERS

```
In [20]: import matplotlib.pyplot as plt
         import seaborn as sns
```

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

```
Out[21]: <seaborn.axisgrid.FacetGrid at 0x170b8ce1c10>
```



In [22]:
```
numericdata = transaction_data.select_dtypes(('float','int'))
numericdata.head()
```

Out[22]:

	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

In [23]:

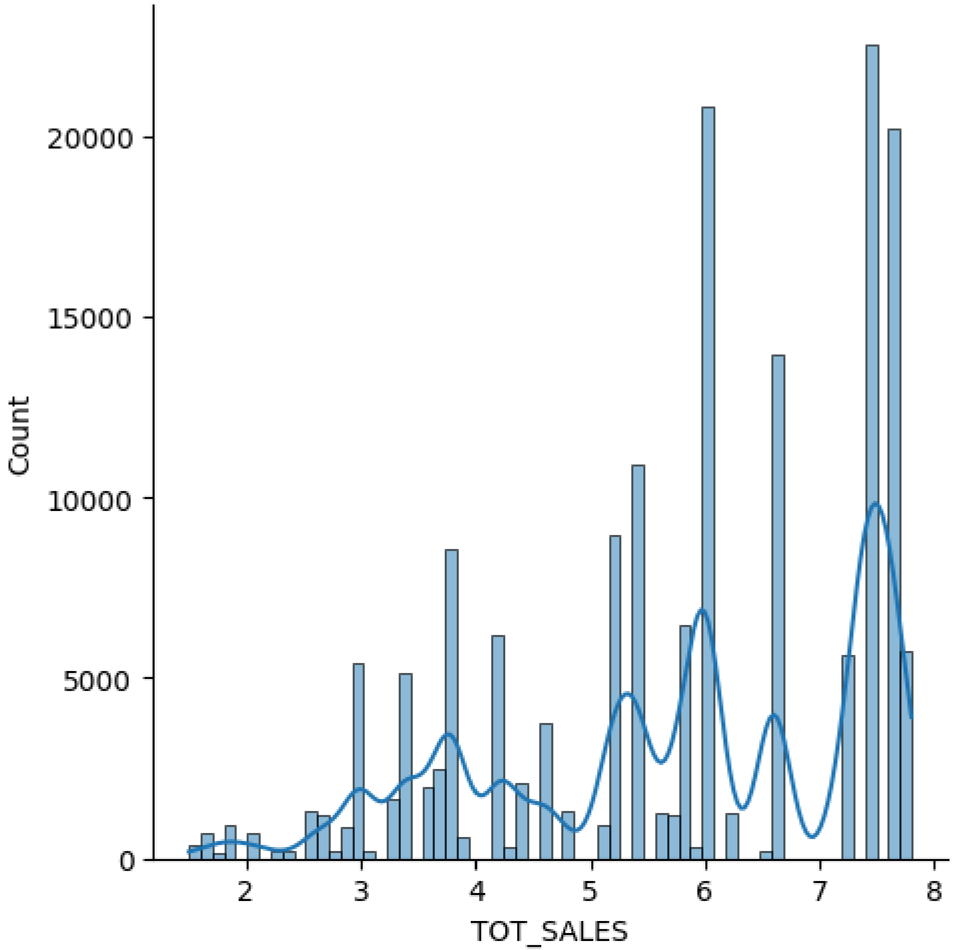
```
x = numericdata[numericdata['TOT_SALES']<8.000]
```

In [24]:

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

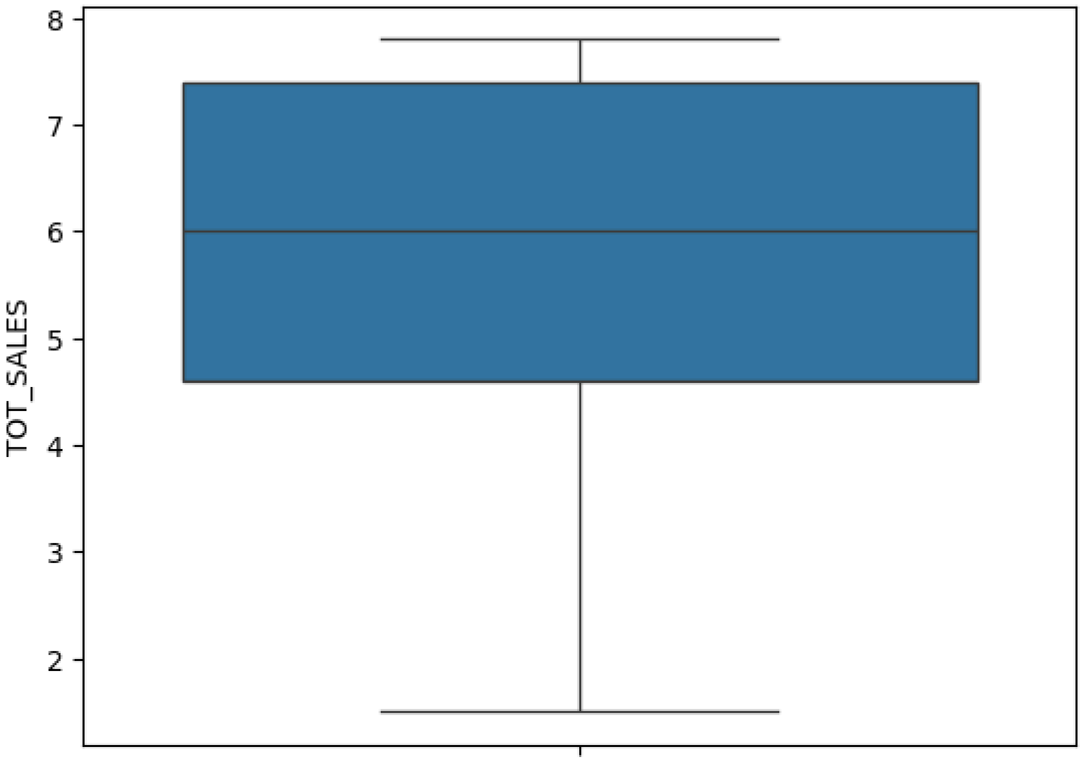
Out[24]:

```
<seaborn.axisgrid.FacetGrid at 0x170b8eaa1d0>
```



In [25]:
```
sns.boxplot(x.TOT_SALES)
```

Out[25]:
```
<Axes: ylabel='TOT_SALES'>
```



```
In [ ]:
```