In [1]:
```
import pandas as pd
import numpy as np
import seaborn as sns
```

In [10]:
```
#import dataset
file_path = "C:/Users/kinyu/Documents/DataAnalysisProjects/Quantium/"

#Read the transaction data into a pandas DataFrame
transaction_data = pd.read_csv(file_path + "QVI_transaction_data.csv")
```

In [11]:
```
transaction_data.head()
```

Out[11]:

	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 [12]:
```
#Read the customer behaviour data into pandas DataFrame
customer_data = pd.read_csv(file_path + "QVI_purchase_behaviour.csv")
```

In [13]:
```
customer_data.head()
```

Out[13]:

	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 THE DATASET

In [14]:
```
transaction_data.describe()
```

Out[14]:

	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 FOR NULL

In [15]:
```
transaction_data.isnull().sum()
```

Out[15]:
```
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 [18]:
```
data_types = transaction_data.dtypes
print(data_types)
```

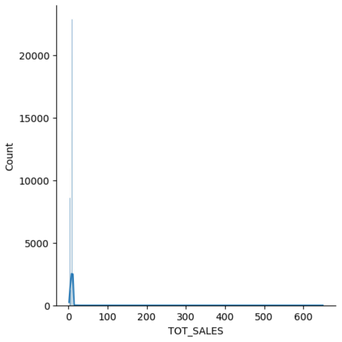
```
DATE              int64
STORE_NBR         int64
LYLTY_CARD_NBR    int64
TXN_ID            int64
PROD_NBR          int64
PROD_NAME        object
PROD_QTY          int64
TOT_SALES       float64
dtype: object
```

EXAMINE THE OUTLIERS

In [19]:
```
import matplotlib.pyplot as plt
import seaborn as sns
```

In [20]:
```
sns.displot(transaction_data.TOT_SALES, kde = True)
```

Out[20]:
```
<seaborn.axisgrid.FacetGrid at 0x13c6e6f0cd0>
```



In [21]:
```
numericdata = transaction_data.select_dtypes (['float','int'])
numericdata.head()
```

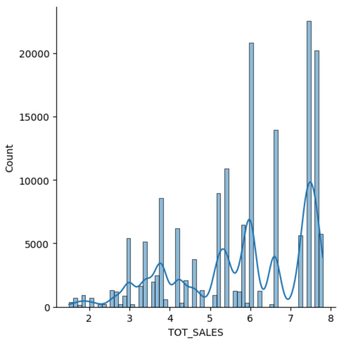
Out[21]:

	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 [22]:
```
x = numericdata[numericdata['TOT_SALES']<8.000]
```

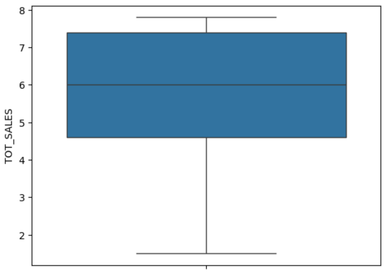
In [23]:
```
sns.displot(x.TOT_SALES, kde = True)
```

Out[23]:
```
<seaborn.axisgrid.FacetGrid at 0x13c6f454650>
```



In [24]:
```
sns.boxplot(x.TOT_SALES)
```

Out[24]:
```
<Axes: ylabel='TOT_SALES'>
```



In [ ]: