plotting-test

May 6, 2025

[2]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
```

[3]:
```
df=pd.read_csv("fashion_data_set.csv")
df.loc[df['total_sold']<df['total_rating'],'total_sold']=df.
 ↪loc[df['total_sold']<df['total_rating'],'total_rating']
df.columns
```

[3]:
```
Index(['price_ori', 'item_rating', 'price_actual', 'total_rating',
       'total_sold', 'favorite', 'Type of product', 'Type of product_2',
       'date_date', 'from', 'to', 'fees'],
      dtype='object')
```

[4]:
```
date_vs_volume_set=df[['price_ori', 'item_rating', 'price_actual',␣
 ↪'total_rating','total_sold', 'favorite','date_date']].groupby('date_date').
 ↪agg("sum")
```

[5]:
```
date_vs_volume_set
```

[5]:
```
            price_ori  item_rating  price_actual  total_rating  total_sold  \
date_date
2020-11-23  401923.63      22629.9     251085.69     1430519.0   3834037.0
2020-11-24  263213.19      22023.3     167855.98      815797.0   2267134.0
2020-11-25    1195.28        148.7        790.46       15704.0     51645.0
2020-11-26     599.14         73.6        458.46       42999.0    101100.0
2020-12-01  216995.51      23286.6     166873.89      441675.0   1181550.0
2020-12-02    8669.24       1359.5       6051.91       58500.0    170303.0

             favorite
date_date
2020-11-23  3144406.0
2020-11-24  1589833.0
2020-11-25    52368.0
2020-11-26    93283.0
```

```
2020-12-01    971623.0
2020-12-02    110253.0
```

[6]:

```
plt.figure()

fig=px.line(date_vs_volume_set,x=date_vs_volume_set.index,y='total_sold',
        labels={'total_sold': 'Total Sold', 'index': 'Date'})
fig.show()
```

```
<Figure size 640x480 with 0 Axes>
```

[7]:

```
date_vs_volume_set_2=df[['price_ori', 'item_rating', 'price_actual',␣
 ↪'total_rating','total_sold', 'favorite','date_date','Type of product']].
 ↪groupby(['Type of product','date_date']).agg("sum")
```

[8]:

```
plt.figure()

fig=px.line(date_vs_volume_set_2.reset_index(),
            x='date_date',
            y='total_sold',
            color='Type of product',  # this adds a legend
            labels={'total_sold': 'Total Sold', 'date_date': 'Date'}
            )
fig.show()
```

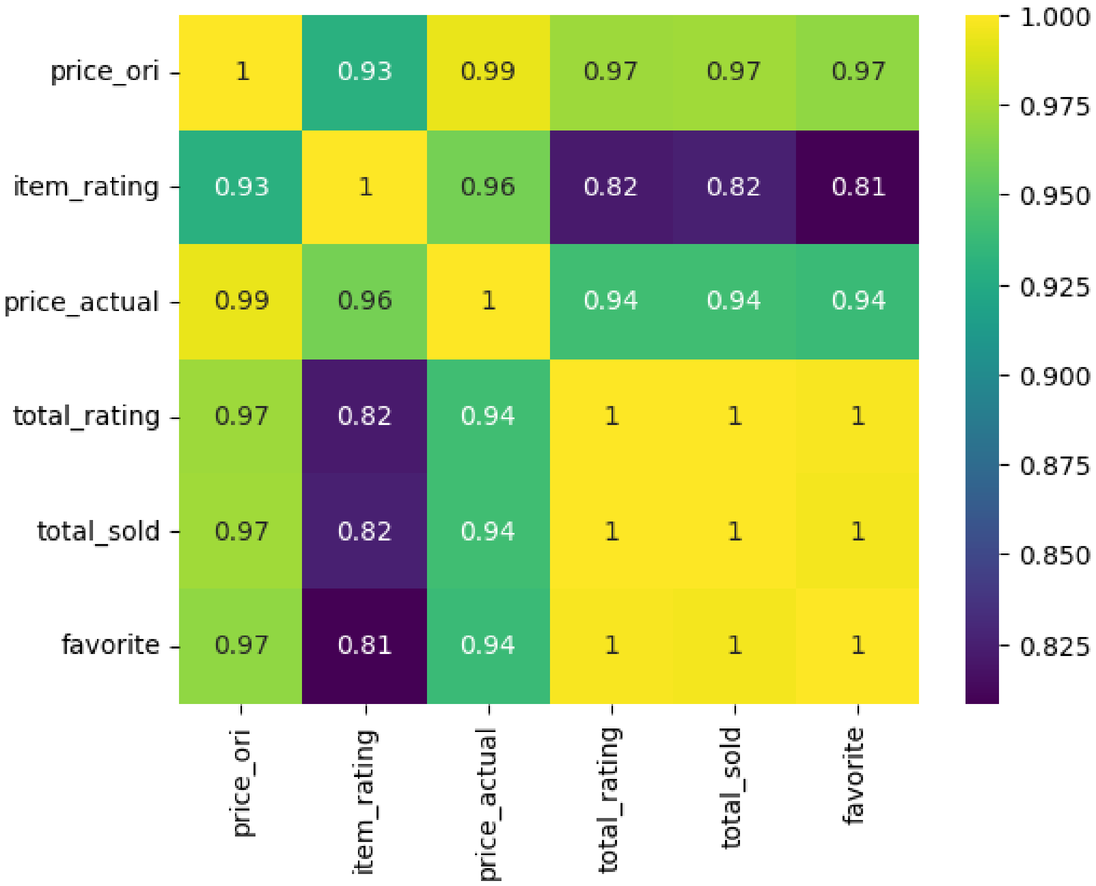
```
<Figure size 640x480 with 0 Axes>
```

[9]:

```
date_vs_volume_set.corr()
plt.figure()
sns.heatmap(date_vs_volume_set.corr(),cmap='viridis',annot=True)
```

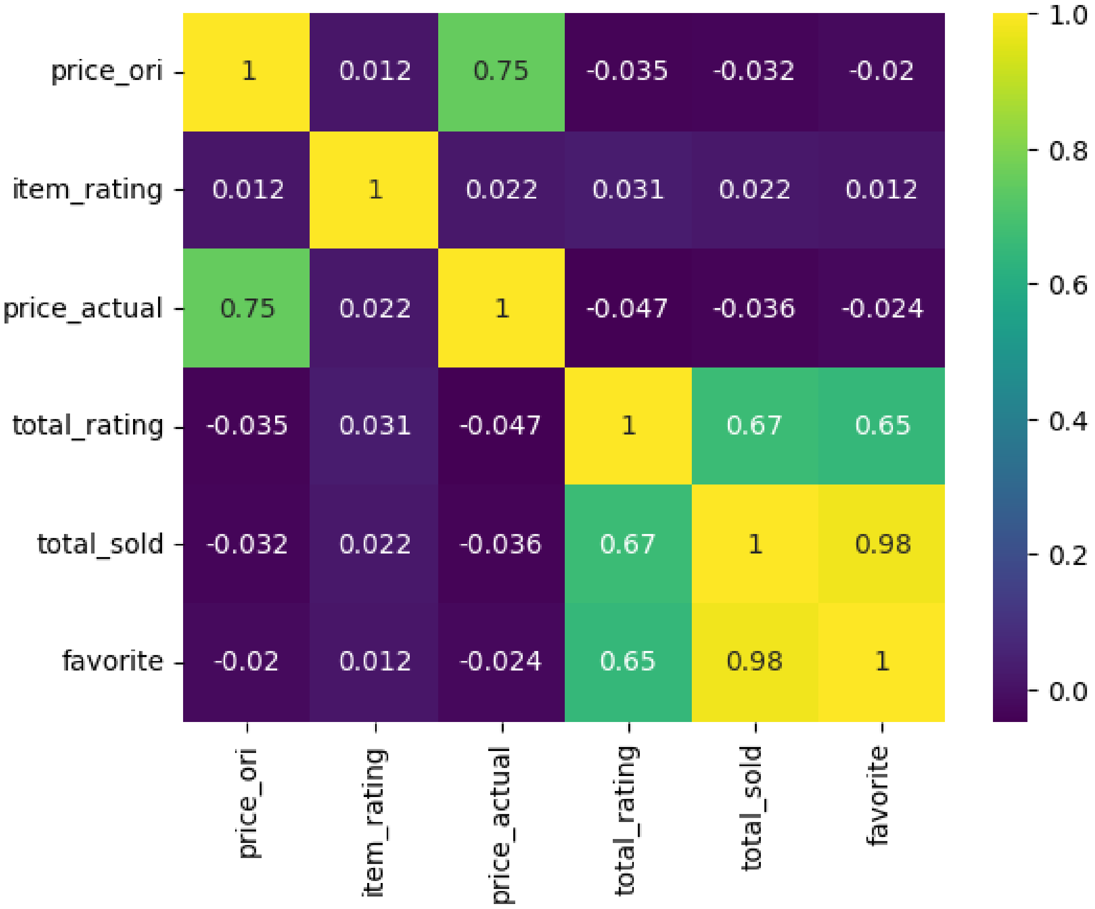
[9]:

```
<Axes: >
```



```
[10]: dsc=df[['price_ori', 'item_rating', 'price_actual',␣
       ↪'total_rating','total_sold', 'favorite']].corr()
      plt.figure()
      sns.heatmap(dsc,cmap='viridis',annot=True)
```

```
[10]: <Axes: >
```

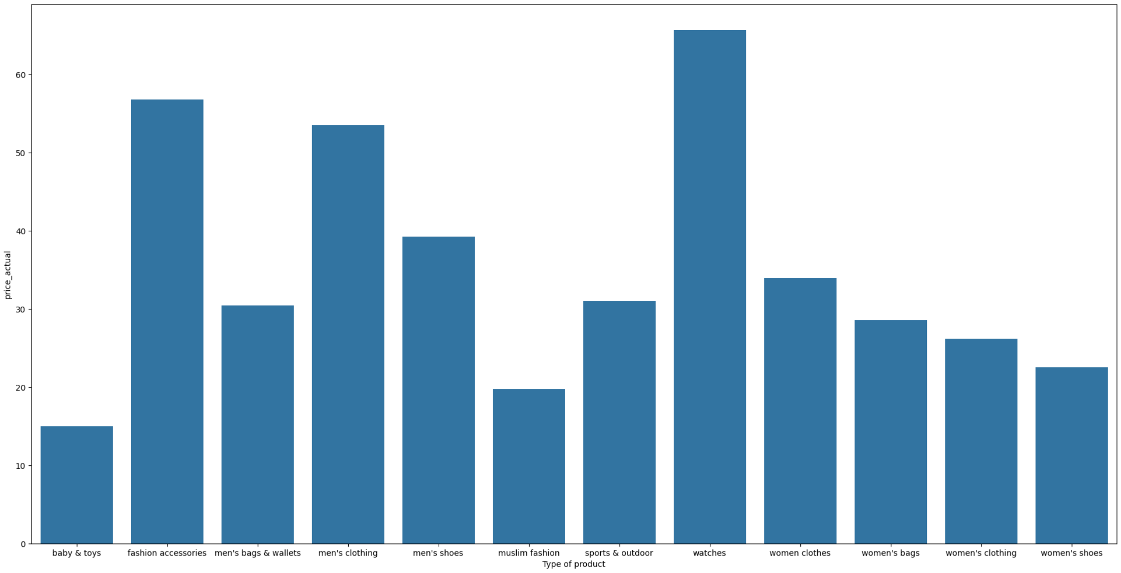


```
[11]: product_meaned=df[['price_ori', 'item_rating', 'price_actual',␣
        ↪'total_rating','total_sold', 'favorite','Type of product']].groupby(['Type␣
        ↪of product']).agg("mean")
```

```
[ ]:
```

```
[12]: plt.figure(figsize=(24,12))
      sns.barplot(product_meaned,x=product_meaned.index,y='price_actual')
```

```
[12]: <Axes: xlabel='Type of product', ylabel='price_actual'>
```



[13]:

```
def grouping(x):
    total_volume = x['total_sold'].sum()
    average_price_ori =(x['price_ori']*x['total_sold']).sum()/total_volume
    average_price_actual = (x['price_actual']*x['total_sold']).sum()/
 ↪total_volume
    average_item_rating = (x['item_rating']*x['total_rating']).sum()/
 ↪(x['total_rating'].sum())
    favorite = x['favorite'].sum()
    total_rating = x['total_rating'].sum()
    return pd.Series(
        {
            'price_ori': average_price_ori, 'item_rating' :average_item_rating,
            'price_actual' : average_price_actual, 'total_rating' :␣
 ↪total_rating,
            'total_sold' : total_volume, 'favorite': favorite
        }
    )







data_managed=df[['price_ori', 'item_rating', 'price_actual',␣
 ↪'total_rating','total_sold', 'favorite','Type of product']].groupby(['Type␣
 ↪of product']).apply(grouping)
```

```
C:\Users\wak computer\AppData\Local\Temp\ipykernel_8332\2929528399.py:21:
```

```
DeprecationWarning:

DataFrameGroupBy.apply operated on the grouping columns. This behavior is
deprecated, and in a future version of pandas the grouping columns will be
excluded from the operation. Either pass `include_groups=False` to exclude the
groupings or explicitly select the grouping columns after groupby to silence
this warning.
```

[14]:

```
data_managed
```

[14]:

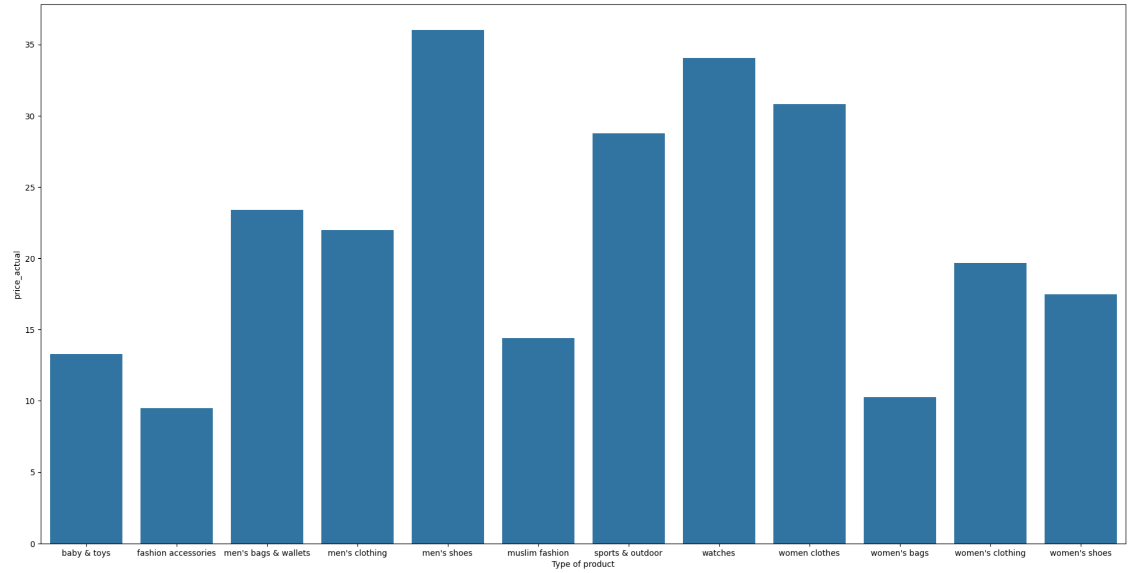
```
                       price_ori  item_rating  price_actual  total_rating  \
Type of product
baby & toys            15.484390     4.923128     13.289781      482426.0
fashion accessories    13.256913     4.906655      9.476168      148249.0
men's bags & wallets   46.826095     4.871543     23.393414      458398.0
men's clothing         33.719546     4.847194     21.955988      114094.0
men's shoes            47.024922     4.824256     36.020991       27944.0
muslim fashion         25.187331     4.877077     14.381962      313049.0
sports & outdoor       40.252446     4.872523     28.749027        2220.0
watches                78.029540     4.809045     34.054175      290603.0
women clothes          39.048391     4.871429     30.793174          98.0
women's bags           18.464512     4.883154     10.263492      504543.0
women's clothing       26.181888     4.830148     19.684647      326209.0
women's shoes          56.435588     4.889116     17.473924      137361.0

                       total_sold   favorite
Type of product
baby & toys             1319339.0   868326.0
fashion accessories      635478.0   346580.0
men's bags & wallets     907924.0   700995.0
men's clothing           274170.0   227795.0
men's shoes               52882.0    51999.0
muslim fashion           881086.0   759065.0
sports & outdoor           3802.0     2668.0
watches                  719057.0   536250.0
women clothes               230.0      320.0
women's bags            1670467.0  1409354.0
women's clothing         861294.0   788383.0
women's shoes            280040.0   270031.0
```

[15]:

```
plt.figure(figsize=(24,12))
sns.barplot(data_managed,x=product_meaned.index,y='price_actual')
```

[15]:

```
<Axes: xlabel='Type of product', ylabel='price_actual'>
```



[16]:
```
df['discount']=(1-(df['price_actual']/df['price_ori']))
```

[17]:
```
df[df['discount']==0]
```

[17]:
```
       price_ori  item_rating  price_actual  total_rating  total_sold  \
1          40.90          4.8         40.90         123.0       242.0
3          44.00          5.0         44.00           6.0         7.0
4          19.00          4.9         19.00          42.0        84.0
8          44.97          4.8         44.97           6.0         8.0
10         31.50          4.7         31.50         285.0       577.0
…            …           …            …             …           …
14360       8.00          5.0          8.00         524.0      1100.0
14363      79.00          5.0         79.00           1.0         1.0
14365       4.50          4.9          4.50          36.0       101.0
14367       6.00          5.0          6.00         491.0       723.0
14369      80.00          5.0         80.00           1.0         1.0

       favorite   Type of product Type of product_2   date_date      from  \
1         744.0  women's clothing           dresses  2020-11-23  overseas
3          27.0  women's clothing           dresses  2020-11-23     local
4          27.0    men's clothing         innerwear  2020-11-23     local
8         141.0  women's clothing           dresses  2020-11-23  overseas
10        577.0  women's clothing           dresses  2020-11-23  overseas
…           …               …                …          …        …
14360       7.0  women's clothing              tops  2020-12-02     local
14363      26.0  women's clothing  traditional wear  2020-12-02     local
14365      74.0  women's clothing              tops  2020-12-02     local
14367       7.0  women's clothing              tops  2020-12-02     local
```

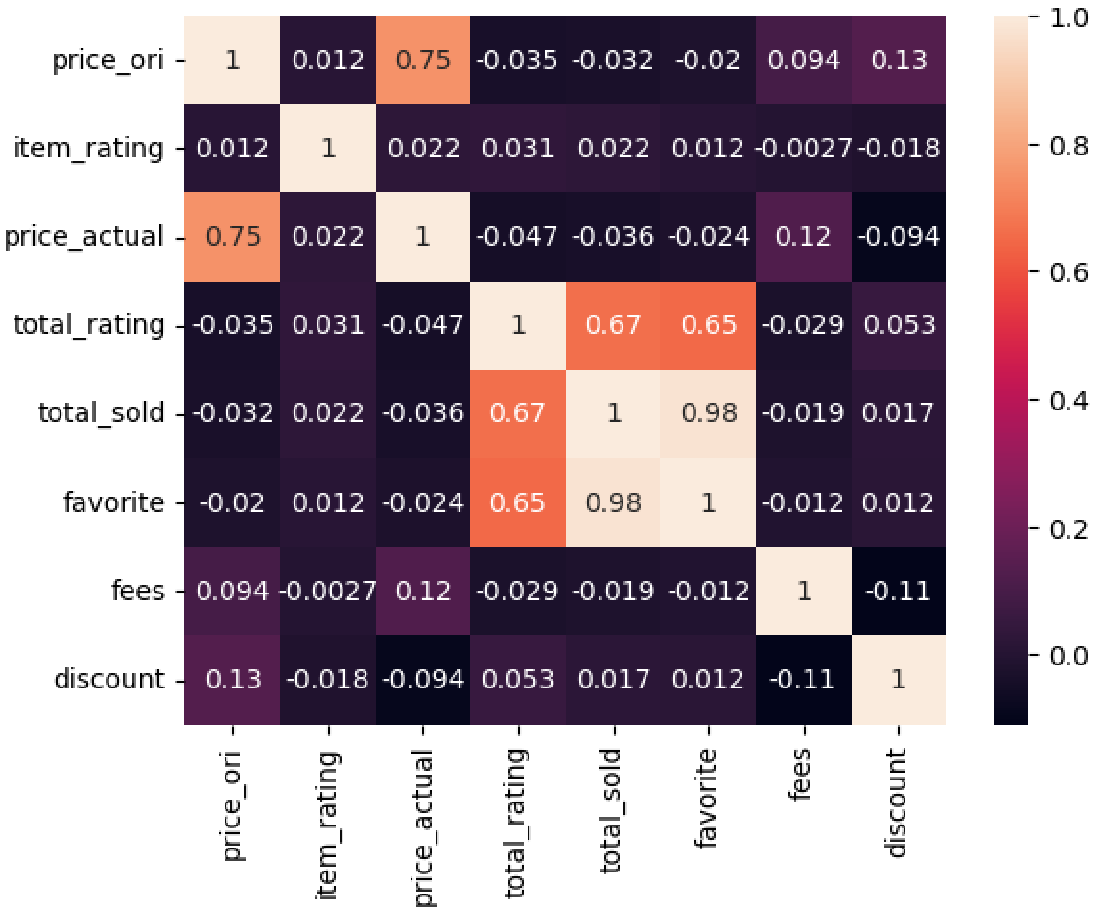
```
14369       1.0  women's clothing  traditional wear  2020-12-02     local

                 to  fees  discount
1      kuala lumpur   0.00       0.0
3      kuala lumpur   0.00       0.0
4      kuala lumpur   0.00       0.0
8      kuala lumpur   0.00       0.0
10     kuala lumpur   0.00       0.0
…             …    …       …
14360  kuala lumpur   0.00       0.0
14363  kuala lumpur  12.50       0.0
14365  kuala lumpur   0.00       0.0
14367  kuala lumpur   0.00       0.0
14369  kuala lumpur   0.63       0.0

[6640 rows x 13 columns]
```

[18]:

```
sns.heatmap(df[['price_ori', 'item_rating', 'price_actual', 'total_rating',
        'total_sold', 'favorite', 'fees', 'discount']].corr(),annot=True)
```

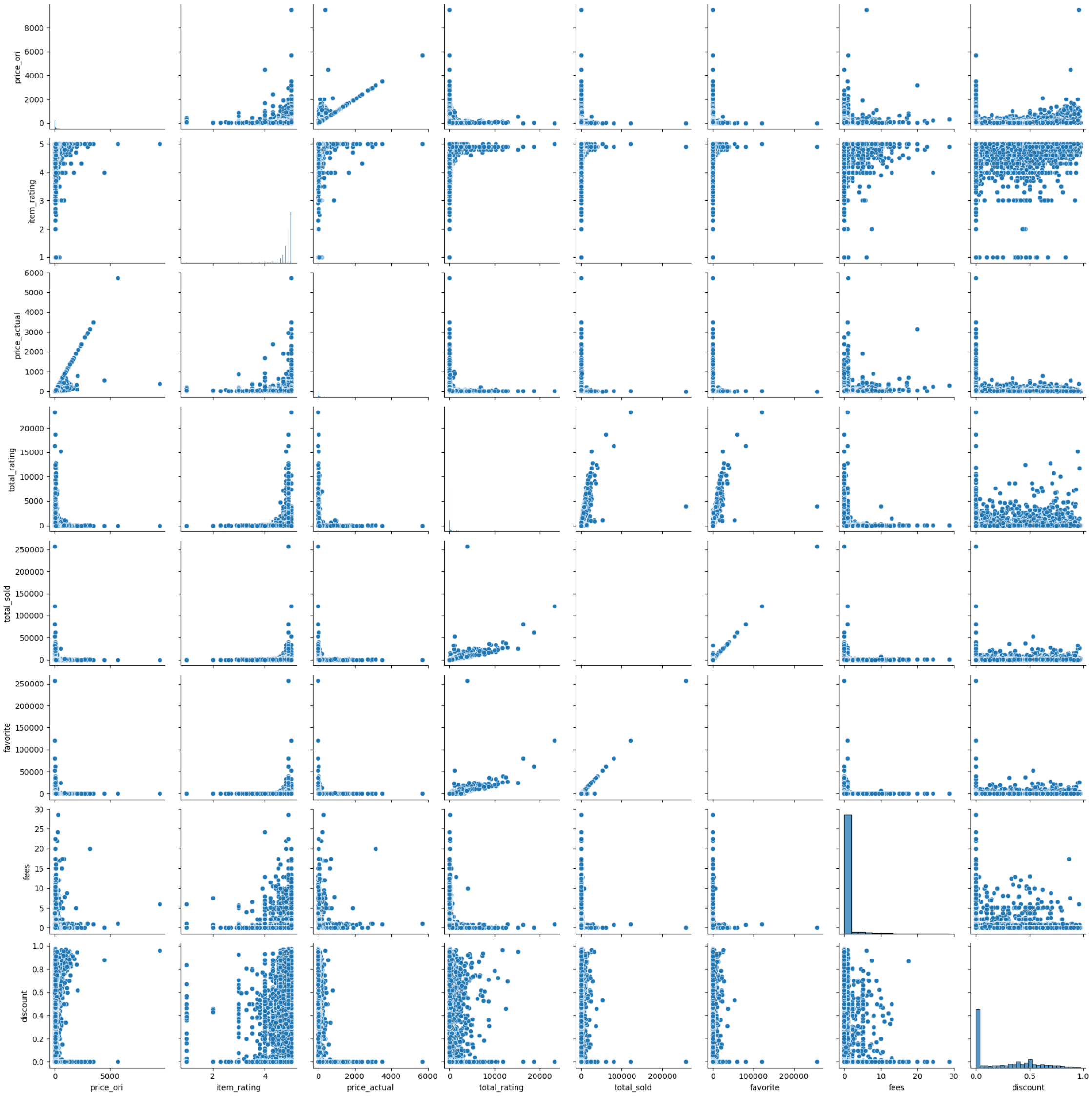
[18]:

```
<Axes: >
```



```
[19]: plt.figure(figsize=(100,100))
      sns.pairplot(df)
```

```
[19]: <seaborn.axisgrid.PairGrid at 0x2aaf5e79a90>

<Figure size 10000x10000 with 0 Axes>
```



[24]:
```
import plotly.express as px
df_2=df.groupby('item_rating').agg('sum').reset_index()
px.histogram(df, x='item_rating',y='total_sold', color='Type of product',␣
 ↪barmode='overlay')
```