Install Conda on Google Colab

`condacolab` simplifies the setup as much as possible, but there are some gotchas.

⚠️ **Read this before continuing!**

- The `condacolab` commands need to be run as the first Code cell!
- Once you run `condacolab.install()`, the Python kernel will be restarted. This is **normal and expected**. After that, you can continue running the cells below like normal.
- Do not use the `Run all` option. Run the `condacolab` cell *individually* and wait for the kernel to restart. **Only then**, you can run all cells if you want.
- You can only use the `base` environment. Do not try to create new ones; instead update `base` with either:
  - `conda install <packages>`
  - `conda env update -n base -f environment.yml`
- If you want to use GPUs, make sure you are using such an instance before starting!
- If you get an error, please raise an issue here.

```
from google.colab import drive
drive.mount('/content/drive')
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).
```

```
!pip install -q condacolab
import condacolab
condacolab.install()
```

```
⏬ Downloading https://github.com/jaimergp/miniforge/releases/latest/download/Mambaforge-colab-Linux-x86_64.sh...
📦 Installing...
📌 Adjusting configuration...
🩹 Patching environment...
🔘 Done in 0:00:15
🔁 Restarting kernel...
```

```
import condacolab
condacolab.check()
```

```
✨🍰✨ Everything looks OK!
```

```
!mamba install -q openmm
```

```
  Version  Build                Channel                    Size
──────────────────────────────────────────────────────────────────

    11.0.3  h15472ef_8           conda-forge/linux-64     952 MB
     3.3.9  nompi_hcdd671c_101   conda-forge/linux-64       6 MB
     3.9.0  8_openblas           conda-forge/linux-64      11 KB
     3.9.0  8_openblas           conda-forge/linux-64      11 KB
     9.3.0  hff62375_18          conda-forge/linux-64      22 KB
     9.3.0  hff62375_18          conda-forge/linux-64       2 MB
     3.9.0  8_openblas           conda-forge/linux-64      11 KB
    0.3.12  pthreads_h4812303_1  conda-forge/linux-64       9 MB
    1.20.1  py37haa41c4c_0       conda-forge/linux-64       6 MB
    2.2.14  h7f98852_0           conda-forge/linux-64     118 KB
     1.0.0  1                   conda-forge/linux-64       4 KB
     7.5.0  py37h01de88b_6       conda-forge/linux-64      11 MB


ackages

d: 986 MB

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action: ...working... done
```

```
ɜction: ...working... done
ɜction: ...working... By downloading and using the CUDA Toolkit conda packages, you accept the terms and conditions of the CUDA End User L
```

For the CUDA platform to be available, make sure you are using a GPU environment.

```
from simtk.testInstallation import main
main()
```

```
OpenMM Version: 7.5
Git Revision: b49b82efb5a253a7c891ca084b3370e181de2ea3

There are 4 Platforms available:

1 Reference - Successfully computed forces
2 CPU - Successfully computed forces
3 CUDA - Successfully computed forces
4 OpenCL - Successfully computed forces

Median difference in forces between platforms:

Reference vs. CPU: 6.29199e-06
Reference vs. CUDA: 6.73078e-06
CPU vs. CUDA: 7.48056e-07
Reference vs. OpenCL: 6.75891e-06
CPU vs. OpenCL: 8.11491e-07
CUDA vs. OpenCL: 2.68874e-07

All differences are within tolerance.
```

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

```
coupon=pd.read_csv("COUPON.CSV")
```

```
print(coupon)
```

```
     Gender           Item1        Item2                Item3   transactions  \
0      Male  Computer Games         Toys  Educational Products  436274.446700
1    Female       Cosmetics  Womens Wear             Kids Wear    5323.510000
2    Female       Cosmetics  Womens Wear                 Candy   48980.998330
3      Male  Computer Games    Gym Shoes                   Tie    3697.783333
4      Male           Heels  Womens Wear             Kids Wear  289181.848300
..      ...             ...          ...                   ...           ...
145  Female         Handbag       Movies                   Tie   47223.323000
146    Male  Computer Games         Toys  Educational Products   70553.563330
147    Male       Cosmetics  Womens Wear                 Candy   56510.570000
148  Female  Computer Games  Womens Wear  Educational Products    6659.136226
149    Male           Heels         Toys  Educational Products   23826.807830

              Coupon  coupon_discount
0      Kids Apparel       117.276864
1    Womens Apparel        70.885046
2    Womens Apparel       342.826195
3      Mens Apparel        88.694903
4    Womens Apparel       200.991719
..              ...              ...
145  Womens Apparel        76.259010
146    Kids Apparel       109.160070
147  Womens Apparel       103.032016
148    Kids Apparel        57.905532
149  Womens Apparel        53.048012

[150 rows x 7 columns]
```

```
coupon.shape
```

```
(150, 7)
```

```
coupon.size
```

```
1050
```

```
coupon.info
```

```
<bound method DataFrame.info of      Gender           Item1        Item2                Item3   transactions  \
0      Male  Computer Games         Toys  Educational Products  436274.446700
1    Female       Cosmetics  Womens Wear             Kids Wear    5323.510000
2    Female       Cosmetics  Womens Wear                 Candy   48980.998330
3      Male  Computer Games    Gym Shoes                   Tie    3697.783333
4      Male           Heels  Womens Wear             Kids Wear  289181.848300
..      ...             ...          ...                   ...           ...
```

```
145  Female         Handbag       Movies                  Tie   47223.323000
146    Male  Computer Games         Toys  Educational Products   70553.563330
147    Male       Cosmetics  Womens Wear                 Candy   56510.570000
148  Female  Computer Games  Womens Wear  Educational Products    6659.136226
149    Male           Heels         Toys  Educational Products   23826.807830

             Coupon  coupon_discount
0      Kids Apparel       117.276864
1    Womens Apparel        70.885046
2    Womens Apparel       342.826195
3      Mens Apparel        88.694903
4    Womens Apparel       200.991719
..              ...              ...
145  Womens Apparel        76.259010
146    Kids Apparel       109.160070
147  Womens Apparel       103.032016
148    Kids Apparel        57.905532
149  Womens Apparel        53.048012

[150 rows x 7 columns]>
```

```
coupon.index
```

```
RangeIndex(start=0, stop=150, step=1)
```

```
coupon.columns
```

```
Index(['Gender', 'Item1', 'Item2', 'Item3', 'transactions', 'Coupon',
       'coupon_discount'],
      dtype='object')
```

```
coupon.dtypes
```

```
Gender              object
Item1               object
Item2               object
Item3               object
transactions       float64
Coupon              object
coupon_discount    float64
dtype: object
```

```
coupon.count()
```

```
Gender             150
Item1              150
Item2              150
Item3              150
transactions       150
Coupon             150
coupon_discount    150
dtype: int64
```

```
coupon.nunique()
```

```
Gender               2
Item1                5
Item2                5
Item3                4
transactions       131
Coupon               3
coupon_discount    131
dtype: int64
```

```
coupon.duplicated()
```

```
0      False
1      False
2      False
3      False
4      False
       ...
145    False
146    False
147    False
148    False
149    False
Length: 150, dtype: bool
```

```
coupon.describe()
```

	transactions	coupon_discount
count	1.500000e+02	150.000000
mean	4.643452e+05	165.435743
std	2.194338e+06	136.299236
min	1.350000e+02	28.273801
75%	7.225787e+04	194.565036

```
coupon.coupon_discount.mean()
```

```
165.43574315833337
```

```
coupon.coupon_discount.max()
```

```
890.14
```

```
coupon.coupon_discount.min()
```

```
28.27380098
```

```
coupon.coupon_discount.nsmallest(4)
```

```
77     28.273801
79     28.273801
33     30.030166
113    35.260634
Name: coupon_discount, dtype: float64
```

```
coupon.coupon_discount.nlargest(5)
```

```
102    890.140000
39     611.116667
18     573.741490
17     524.907167
127    524.907167
Name: coupon_discount, dtype: float64
```

```
coupon.corr()
```

```
<ipython-input-30-ad338c17e961>:1: FutureWarning: The default value of numeric_only in DataFrame.corr
  coupon.corr()
```

	transactions	coupon_discount
transactions	1.000000	-0.000621
coupon_discount	-0.000621	1.000000

```
coupon.head()
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
0	Male	Computer Games	Toys	Educational Products	436274.446700	Kids Apparel	117.276864
1	Female	Cosmetics	Womens Wear	Kids Wear	5323.510000	Womens Apparel	70.885046
2	Female	Cosmetics	Womens Wear	Candy	48980.998330	Womens Apparel	342.826195
	[illegible]	Computer	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

```
coupon.tail()
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
145	Female	Handbag	Movies	Tie	47223.323000	Womens Apparel	76.259010
146	Male	Computer Games	Toys	Educational Products	70553.563330	Kids Apparel	109.160070
147	Male	Cosmetics	Womens Wear	Candy	56510.570000	Womens Apparel	103.032016
	[illegible]	Computer	Womens	Educational	[illegible]	[illegible]	[illegible]

```
coupon.tail(8)
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
142	Female	Heels	Board Games	Educational Products	9209.230000	Womens Apparel	45.881078
143	Female	Cosmetics	Gym Shoes	Tie	24046.080000	Mens Apparel	71.538326
144	Male	Computer	Womens	Kids Wear	39662.179830	Kids Apparel	96.944112

```
coupon.head(8)
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
0	Male	Computer Games	Toys	Educational Products	436274.446700	Kids Apparel	117.276864
1	Female	Cosmetics	Womens Wear	Kids Wear	5323.510000	Womens Apparel	70.885046
2	Female	Cosmetics	Womens Wear	Candy	48980.998330	Womens Apparel	342.826195
3	Male	Computer Games	Gym Shoes	Tie	3697.783333	Mens Apparel	88.694903
4	Male	Heels	Womens Wear	Kids Wear	289181.848300	Womens Apparel	200.991719
			Womens			Womens	

```
coupon[:]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
0	Male	Computer Games	Toys	Educational Products	436274.446700	Kids Apparel	117.276864
1	Female	Cosmetics	Womens Wear	Kids Wear	5323.510000	Womens Apparel	70.885046

```
coupon[:20]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
0	Male	Computer Games	Toys	Educational Products	4.362744e+05	Kids Apparel	117.276864
1	Female	Cosmetics	Womens Wear	Kids Wear	5.323510e+03	Womens Apparel	70.885046
2	Female	Cosmetics	Womens Wear	Candy	4.898100e+04	Womens Apparel	342.826195
3	Male	Computer Games	Gym Shoes	Tie	3.697783e+03	Mens Apparel	88.694903
4	Male	Heels	Womens Wear	Kids Wear	2.891818e+05	Womens Apparel	200.991719
5	Male	Handbag	Womens Wear	Kids Wear	6.877825e+03	Womens Apparel	181.832654
6	Female	Cosmetics	Toys	Candy	3.709769e+04	Kids Apparel	116.142109
7	Female	Handbag	Movies	Educational Products	9.209230e+03	Womens Apparel	45.881078
8	Female	Mens Wear	Movies	Candy	2.131075e+04	Kids Apparel	54.472416
9	Female	Heels	Toys	Kids Wear	3.603225e+05	Kids Apparel	284.346347
10	Female	Mens Wear	Gym Shoes	Educational Products	4.467820e+03	Mens Apparel	228.007778
11	Male	Computer Games	Board Games	Candy	2.236049e+04	Kids Apparel	99.379992
12	Female	Cosmetics	Womens Wear	Educational Products	9.132825e+05	Womens Apparel	122.048774
13	Male	Handbag	Movies	Tie	4.239502e+03	Mens Apparel	471.965794
14	Female	Computer	Board	Kids Wear	7.310636e+04	Kids Apparel	447.266784

```
coupon[-20:]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
130	Male	Computer Games	Movies	Tie	74609.171670	Kids Apparel	88.654485
131	Female	Cosmetics	Toys	Kids Wear	141586.369500	Womens Apparel	66.974177
132	Male	Cosmetics	Womens Wear	Educational Products	174677.217300	Womens Apparel	72.370757
133	Female	Computer Games	Womens Wear	Educational Products	281169.431900	Womens Apparel	50.721962
134	Male	Mens Wear	Movies	Tie	20275.510000	Mens Apparel	97.768613
135	Female	Mens Wear	Board Games	Kids Wear	64135.470000	Kids Apparel	482.785615
136	Male	Computer Games	Gym Shoes	Educational Products	10625.610000	Mens Apparel	178.931493
137	Male	Cosmetics	Toys	Candy	45404.762810	Kids Apparel	125.320852
138	Female	Heels	Movies	Educational Products	563274.959200	Womens Apparel	136.124537
139	Male	Mens Wear	Womens Wear	Educational Products	30277.648330	Womens Apparel	104.575943
140	Female	Heels	Board Games	Kids Wear	32258.783330	Kids Apparel	79.678606
141	Male	Handbag	Movies	Candy	22424.970000	Womens Apparel	95.419119
142	Female	Heels	Board Games	Educational Products	9209.230000	Womens Apparel	45.881078
143	Female	Cosmetics	Gym Shoes	Tie	24046.080000	Mens Apparel	71.538326

```
coupon[20:25]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
20	Male	Cosmetics	Movies	Candy	147023.28500	Womens Apparel	109.857869
21	Female	Mens Wear	Womens Wear	Educational Products	54049.13833	Womens Apparel	89.472987
		Computer					

```
coupon['transactions']
```

```
0      436274.446700
1        5323.510000
2       48980.998330
3        3697.783333
4      289181.848300
           ...
145     47223.323000
146     70553.563330
147     56510.570000
148      6659.136226
149     23826.807830
Name: transactions, Length: 150, dtype: float64
```

```
coupon.columns
```

```
Index(['Gender', 'Item1', 'Item2', 'Item3', 'transactions', 'Coupon',
       'coupon_discount'],
      dtype='object')
```

```
coupon[['transactions','coupon_discount']]
```

	transactions	coupon_discount
0	436274.446700	117.276864
1	5323.510000	70.885046
2	48980.998330	342.826195
3	3697.783333	88.694903
4	289181.848300	200.991719

```
coupon[coupon.transactions<500]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
34	Male	Mens Wear	Movies	Educational Products	135.00	Mens Apparel	135.00
56	Male	Computer Games	Movies	Kids Wear	149.25	Kids Apparel	149.25
149	23826.807830	53.048012					

```
coupon[coupon.transactions>500]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
0	Male	Computer Games	Toys	Educational Products	436274.446700	Kids Apparel	117.276864
1	Female	Cosmetics	Womens Wear	Kids Wear	5323.510000	Womens Apparel	70.885046
2	Female	Cosmetics	Womens Wear	Candy	48980.998330	Womens Apparel	342.826195
3	Male	Computer Games	Gym Shoes	Tie	3697.783333	Mens Apparel	88.694903
4	Male	Heels	Womens Wear	Kids Wear	289181.848300	Womens Apparel	200.991719
...	...	...	...	...	...	...	...
145	Female	Handbag	Movies	Tie	47223.323000	Womens Apparel	76.259010
146	Male	Computer Games	Toys	Educational Products	70553.563330	Kids Apparel	109.160070
			...			...	

```
coupon[coupon.coupon_discount.between(200,250)]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
4	Male	Heels	Womens Wear	Kids Wear	289181.8483	Womens Apparel	200.991719
10	Female	Mens Wear	Gym Shoes	Educational Products	4467.8200	Mens Apparel	228.007778
28	Male	Mens Wear	Womens Wear	Tie	31782.6450	Mens Apparel	232.083176
41	Female	Handbag	Board Games	Tie	33655.4150	Womens Apparel	232.959612
42	Male	Computer Games	Board Games	Tie	31782.6450	Mens Apparel	232.083176
52	Male	Mens Wear	Movies	Kids Wear	142874.0233	Mens Apparel	211.708369
57	Female	Computer Games	Toys	Candy	31782.6450	Kids Apparel	232.083176
58	Female	Mens Wear	Movies	Educational Products	33902.0200	Mens Apparel	224.054986
67	Male	Computer Games	Gym Shoes	Tie	136665.1183	Mens Apparel	212.779473

```
coupon.loc[:30,:]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
0	Male	Computer Games	Toys	Educational Products	4.362744e+05	Kids Apparel	117.276864
1	Female	Cosmetics	Womens Wear	Kids Wear	5.323510e+03	Womens Apparel	70.885046
2	Female	Cosmetics	Womens Wear	Candy	4.898100e+04	Womens Apparel	342.826195
3	Male	Computer Games	Gym Shoes	Tie	3.697783e+03	Mens Apparel	88.694903
4	Male	Heels	Womens Wear	Kids Wear	2.891818e+05	Womens Apparel	200.991719
5	Male	Handbag	Womens Wear	Kids Wear	6.877825e+03	Womens Apparel	181.832654
6	Female	Cosmetics	Toys	Candy	3.709769e+04	Kids Apparel	116.142109
7	Female	Handbag	Movies	Educational Products	9.209230e+03	Womens Apparel	45.881078
8	Female	Mens Wear	Movies	Candy	2.131075e+04	Kids Apparel	54.472416
9	Female	Heels	Toys	Kids Wear	3.603225e+05	Kids Apparel	284.346347
10	Female	Mens Wear	Gym Shoes	Educational Products	4.467820e+03	Mens Apparel	228.007778
11	Male	Computer Games	Board Games	Candy	2.236049e+04	Kids Apparel	99.379992
12	Female	Cosmetics	Womens Wear	Educational Products	9.132825e+05	Womens Apparel	122.048774
13	Male	Handbag	Movies	Tie	4.239502e+03	Mens Apparel	471.965794
14	Female	Computer Games	Board Games	Kids Wear	7.310636e+04	Kids Apparel	447.266784
15	Male	Cosmetics	Board Games	Educational Products	3.841881e+05	Womens Apparel	81.546856

```
coupon.loc[-40:]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
0	Male	Computer Games	Toys	Educational Products	436274.446700	Kids Apparel	117.276864
1	Female	Cosmetics	Womens Wear	Kids Wear	5323.510000	Womens Apparel	70.885046
2	Female	Cosmetics	Womens Wear	Candy	48980.998330	Womens Apparel	342.826195
3	Male	Computer Games	Gym Shoes	Tie	3697.783333	Mens Apparel	88.694903
4	Male	Heels	Womens Wear	Kids Wear	289181.848300	Womens Apparel	200.991719
...	...	...	...	...	...	...	...
145	Female	Handbag	Movies	Tie	47223.323000	Womens Apparel	76.259010

```
coupon.loc[40:60,:]
```

	Gender	Item1	Item2	Item3	transactions	Coupon	coupon_discount
40	Female	Cosmetics	Movies	Candy	23826.807830	Womens Apparel	53.048012
41	Female	Handbag	Board Games	Tie	33655.415000	Womens Apparel	232.959612
42	Male	Computer Games	Board Games	Tie	31782.645000	Mens Apparel	232.083176
43	Male	Mens Wear	Womens Wear	Educational Products	4195.690000	Mens Apparel	387.012500
44	Female	Mens Wear	Movies	Candy	11570.795000	Mens Apparel	140.762111
				Educational			

```
coupon.loc[40:60,['coupon_discount']]
```

	coupon_discount
40	53.048012
41	232.959612
42	232.083176
43	387.012500
44	140.762111

```
coupon.loc[40:50,['Coupon','coupon_discount']]
```

	Coupon	coupon_discount
40	Womens Apparel	53.048012
41	Womens Apparel	232.959612
42	Mens Apparel	232.083176
43	Mens Apparel	387.012500
44	Mens Apparel	140.762111
45	Kids Apparel	72.850639
46	Kids Apparel	57.905532
47	Kids Apparel	124.310000
48	Womens Apparel	302.470667
49	Kids Apparel	70.496286
50	Womens Apparel	45.881078

```
coupon.loc[coupon.coupon_discount<10,'Coupon':'coupon_discount']
```

	Coupon	coupon_discount

```
customer.loc[[12,24,36,6],'item_id':'other_discount']
```

	item_id	quantity	selling_price	other_discount
12	32083	1	8.90	0.00
24	4408	1	63.76	0.00
36	13174	1	35.26	0.00

```
coupon.iloc[45:60,2:]
```

	Item2	Item3	transactions	Coupon	coupon_discount
45	Toys	Educational Products	2449.515000	Kids Apparel	72.850639
46	Movies	Kids Wear	6659.136226	Kids Apparel	57.905532
47	Movies	Candy	682.100000	Kids Apparel	124.310000
48	Movies	Educational Products	8313.270000	Womens Apparel	302.470667
49	Toys	Tie	3918.900000	Kids Apparel	70.496286
50	Movies	Educational Products	9209.230000	Womens Apparel	45.881078
51	Womens Wear	Kids Wear	37872.330000	Kids Apparel	498.320172
52	Movies	Kids Wear	142874.023300	Mens Apparel	211.708369
53	Gym Shoes	Educational Products	377837.818300	Mens Apparel	145.603602
54	Womens Wear	Candy	39927.950000	Womens Apparel	134.358861
55	Womens Wear	Educational Products	18437.255000	Womens Apparel	163.494111
56	Movies	Kids Wear	149.250000	Kids Apparel	149.250000
57	Toys	Candy	31782.645000	Kids Apparel	232.083176
58	Movies	Educational Products	33902.020000	Mens Apparel	224.054986
59	Womens Wear	Tie	19793.898330	Mens Apparel	130.010524

```
coupon.iloc[[45,67,8,124],[3]]
```

	Item3
45	Educational Products

```
coupon.iloc[[45,67,8,124],[2,0,1]]
```

	Item2	Gender	Item1
45	Toys	Female	Cosmetics
67	Gym Shoes	Male	Computer Games
8	Movies	Female	Mens Wear
124	Movies	Male	Cosmetics

```
coupon=coupon.rename(columns={'Coupon':'coupon'})
```

```
coupon.columns
```

```
Index(['Gender', 'Item1', 'Item2', 'Item3', 'transactions', 'coupon',
       'coupon_discount'],
      dtype='object')
```

```
coupon.isna()
```

	Gender	Item1	Item2	Item3	transactions	coupon	coupon_discount
0	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False

```
coupon.isna().sum()
```

```
Gender             0
Item1              0
Item2              0
Item3              0
transactions       0
coupon             0
coupon_discount    0
dtype: int64
```

```
coupon.isna().any()
```

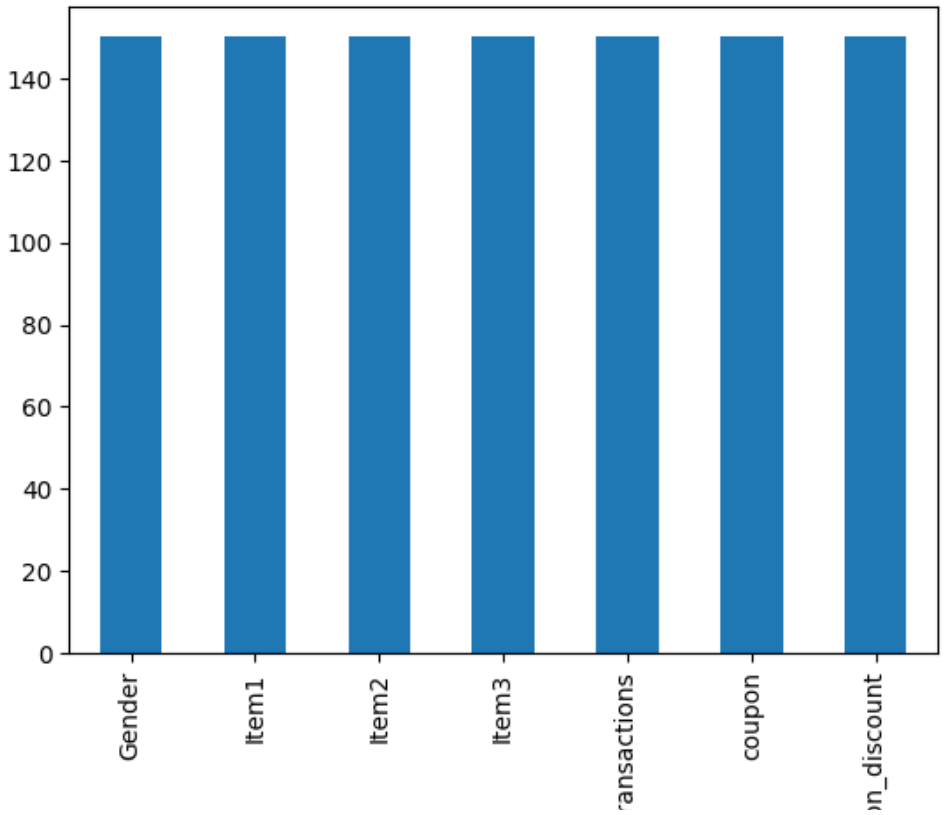
```
Gender             False
Item1              False
Item2              False
Item3              False
transactions       False
coupon             False
coupon_discount    False
dtype: bool
```

```
coupon.isna().all()
```

```
Gender             False
Item1              False
Item2              False
Item3              False
transactions       False
coupon             False
coupon_discount    False
dtype: bool
```

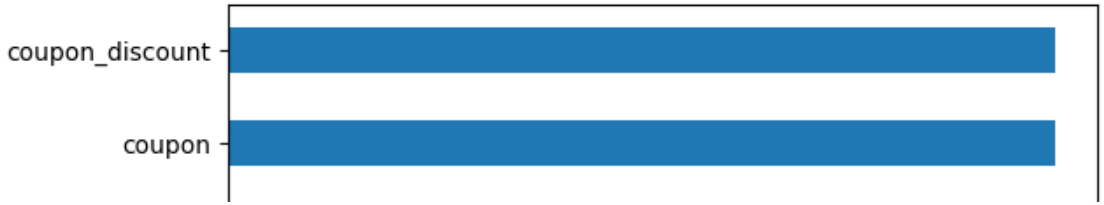
```
coupon.count().plot.bar()
```

```
<Axes: >
```



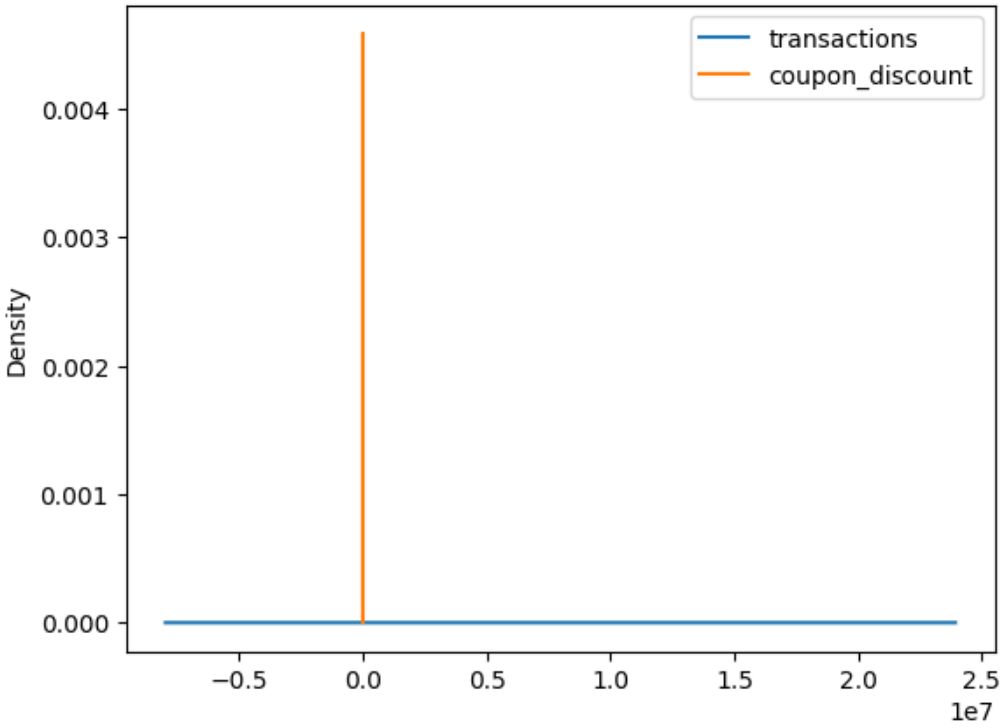

```
coupon.count().plot.barh()
```

```
<Axes: >
```



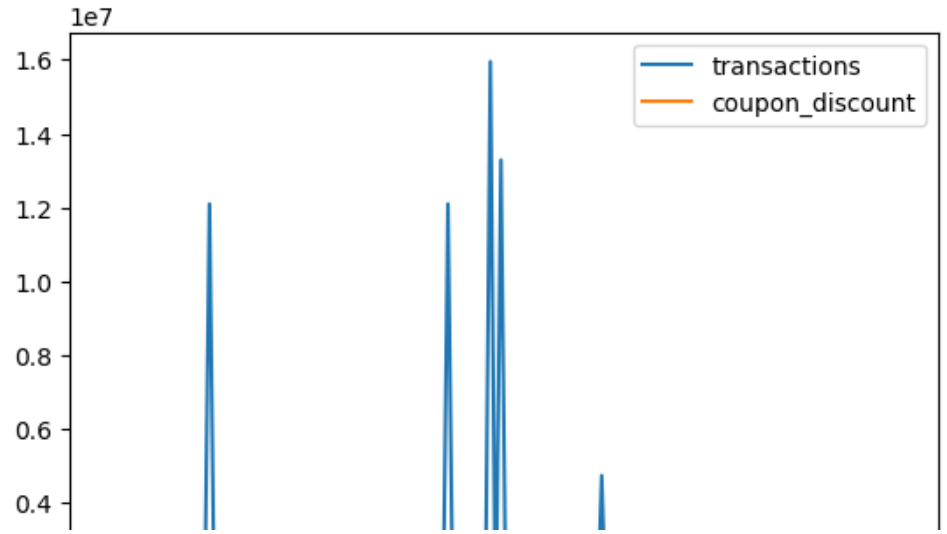

```
coupon.plot.density()
```

```
<Axes: ylabel='Density'>
```



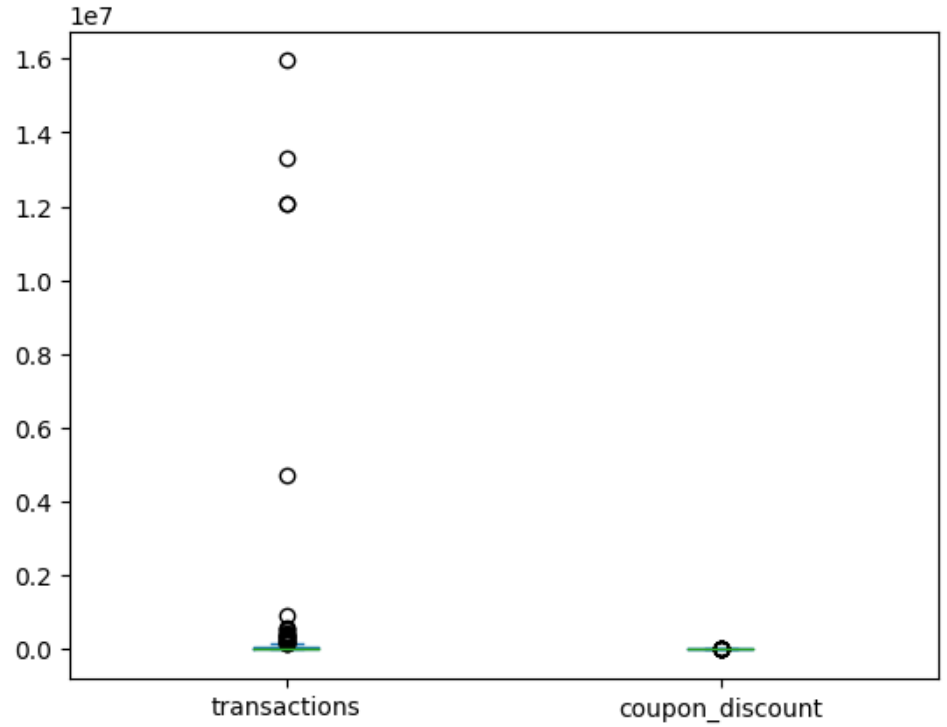

```
coupon.plot.line()
```

```
<Axes: >
```



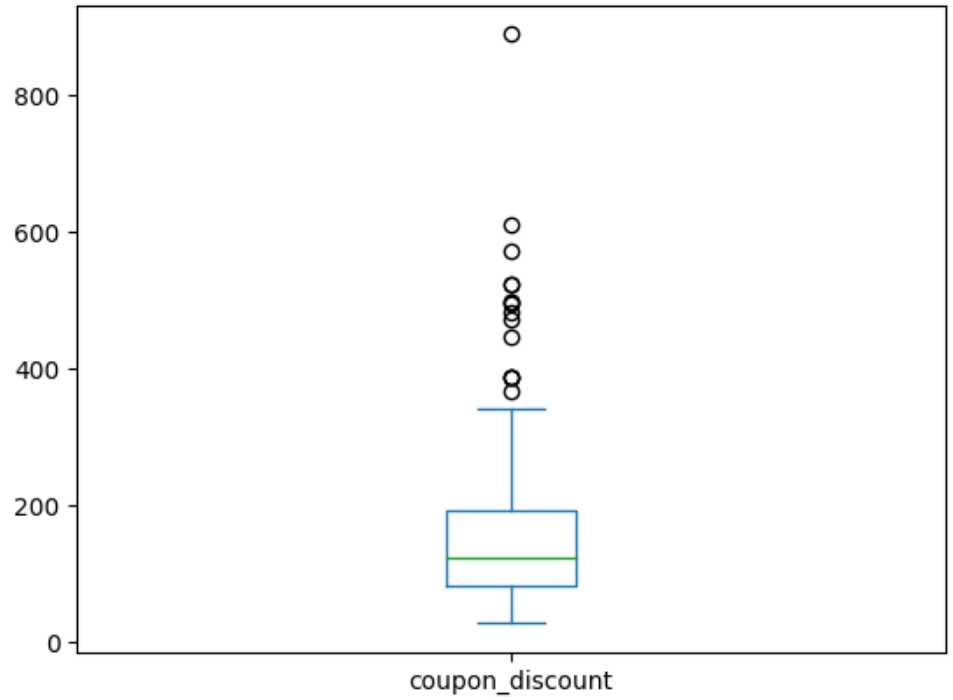

```
coupon.plot.box()
```

```
<Axes: >
```



```
coupon.coupon_discount.plot.box()
```

```
<Axes: >
```



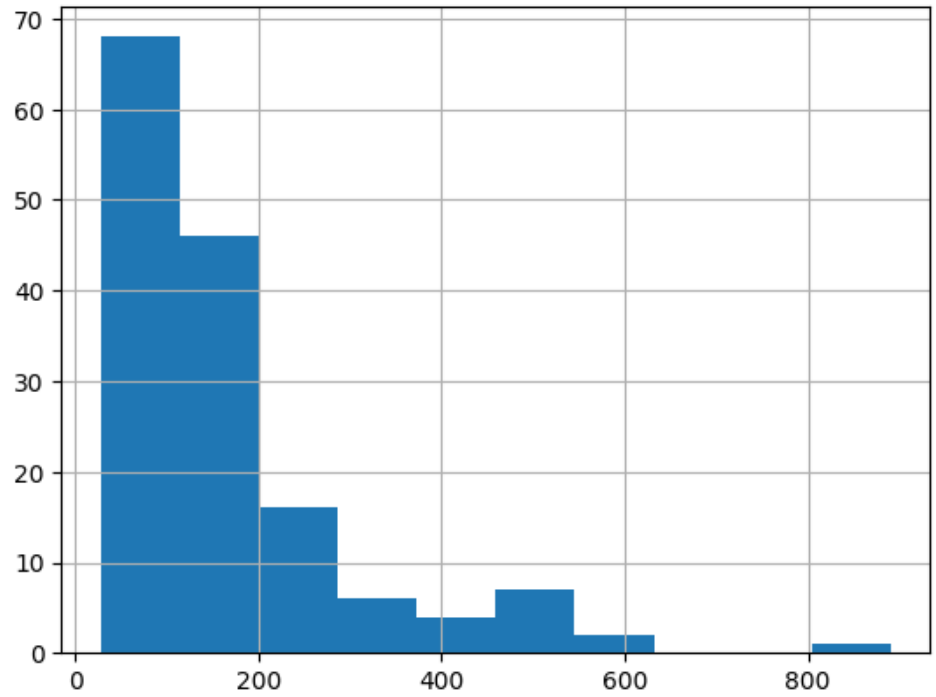

```
coupon.transactions.plot.line()
```

```
<Axes: >
```


```
coupon.plot.scatter('transactions','coupon_discount')
```

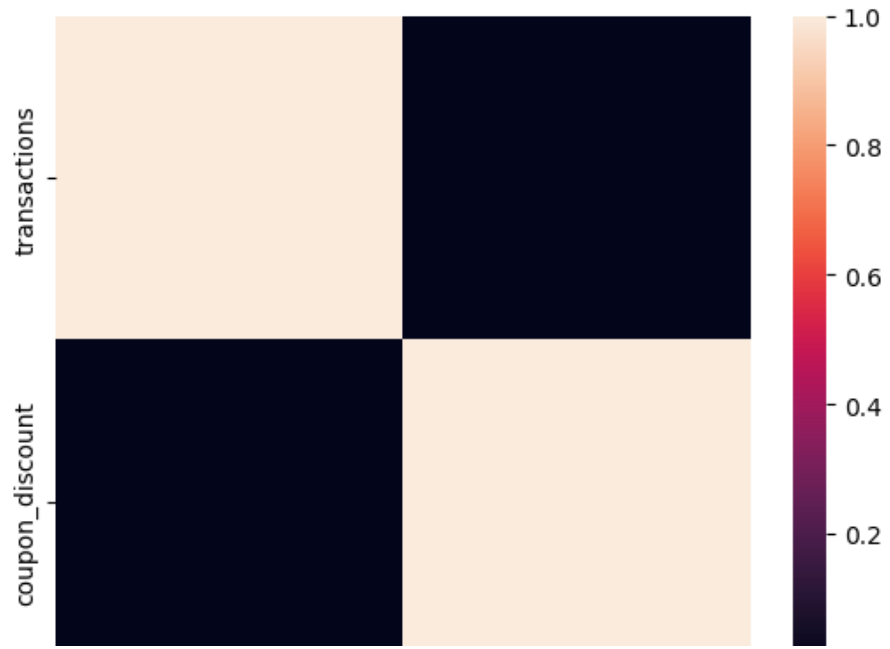
```
coupon.coupon_discount.hist()
```

```
<Axes: >
```




```
sns.heatmap(coupon.corr())
```

```
<ipython-input-80-f591ff5e1f47>:1: FutureWarning: The default value of numeric_only in DataFrame.corr i
  sns.heatmap(coupon.corr())
<Axes: >
```




```
sns.heatmap(coupon.corr(),annot=True)
```

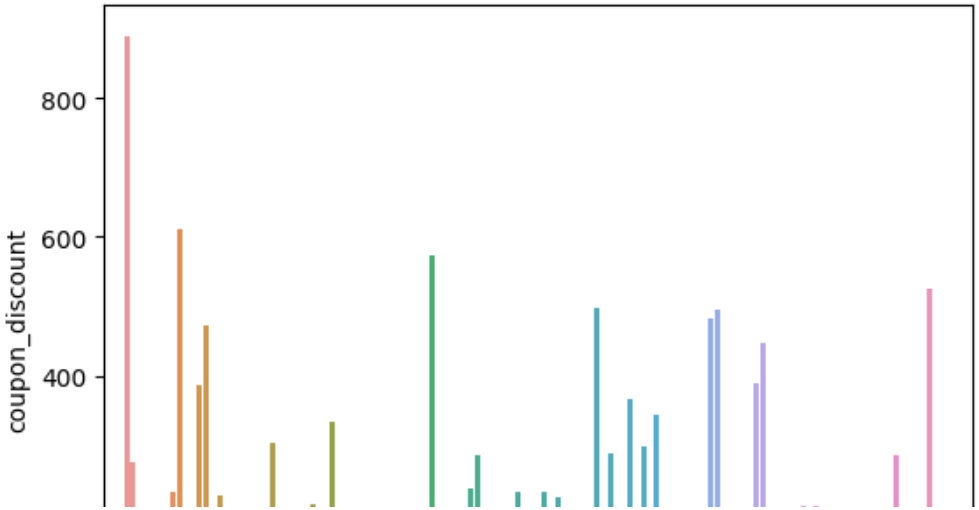
```
<ipython-input-81-ccec360640ab>:1: FutureWarning: The default value of numeric_only in DataFrame.corr i
  sns.heatmap(coupon.corr(),annot=True)
<Axes: >
```


```
sns.countplot(data=coupon)
```

```
<Axes: ylabel='count'>
```

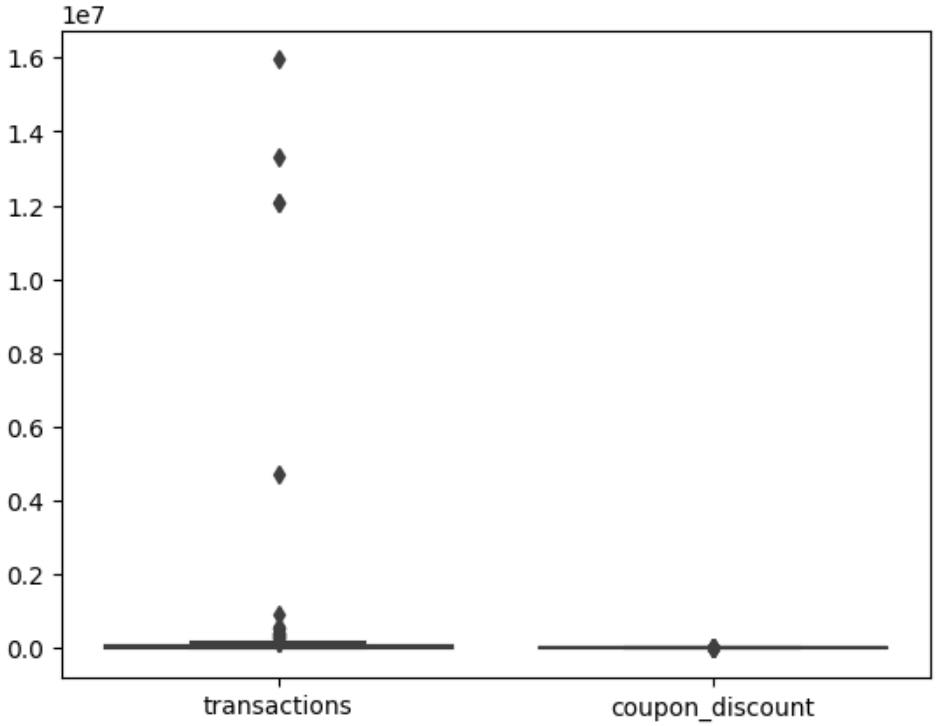

```
sns.barplot(x='transactions',y='coupon_discount',data=coupon)
```

```
<Axes: xlabel='transactions', ylabel='coupon_discount'>
```



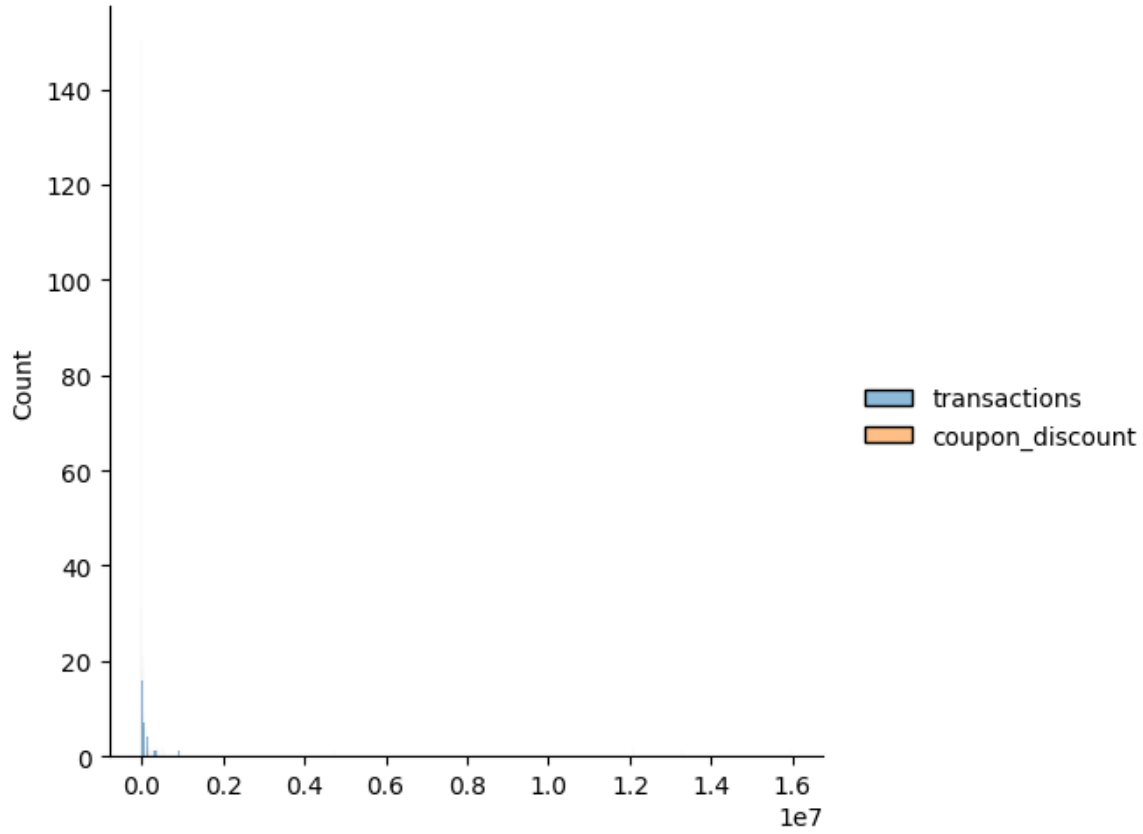

```
sns.boxplot(data=coupon)
```

```
<Axes: >
```



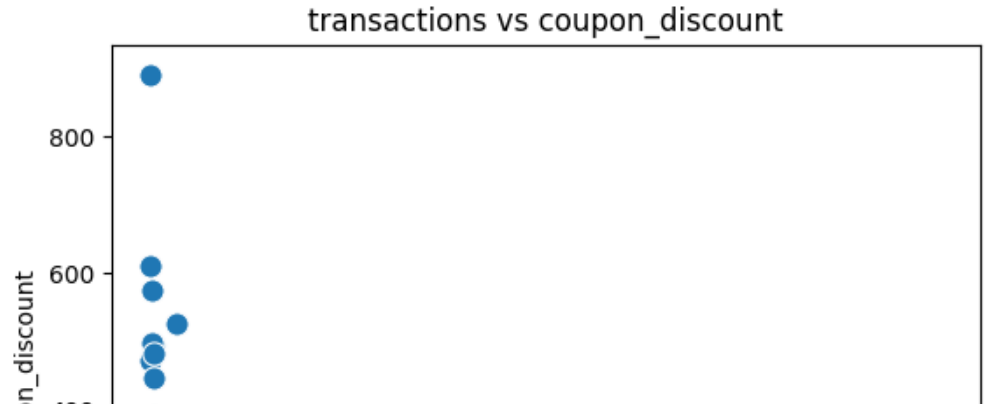
```
sns.displot(data=coupon)
```

```
<seaborn.axisgrid.FacetGrid at 0x7fe93ad097c0>
```




```
sns.scatterplot(x=coupon.transactions,y=coupon.coupon_discount,data=coupon,).set_title("transactions vs coupon_discount")
```

```
Text(0.5, 1.0, 'transactions vs coupon_discount')
```




```
sns.scatterplot(x=coupon.transactions,y=coupon.coupon_discount,data=coupon,marker='+').set_title("transactions vs coupon_discount")
```

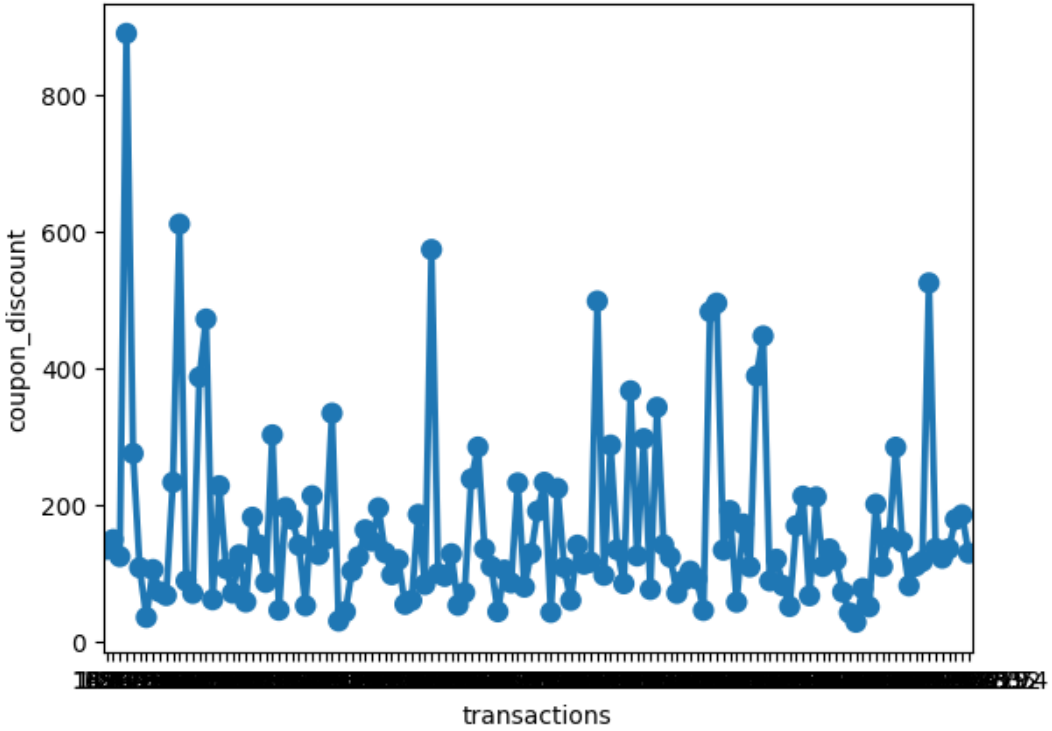
```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-1-88c2ecbac55e> in <cell line: 1>()
----> 1
sns.scatterplot(x=coupon.transactions,y=coupon.coupon_discount,data=coupon,marker='+').set_title("tran
vs coupon_discount")

NameError: name 'sns' is not defined
```

```
sns.stripplot(x=coupon.transactions,y=coupon.coupon_discount,data=coupon)
```

```
<Axes: xlabel='transactions', ylabel='coupon_discount'>
```

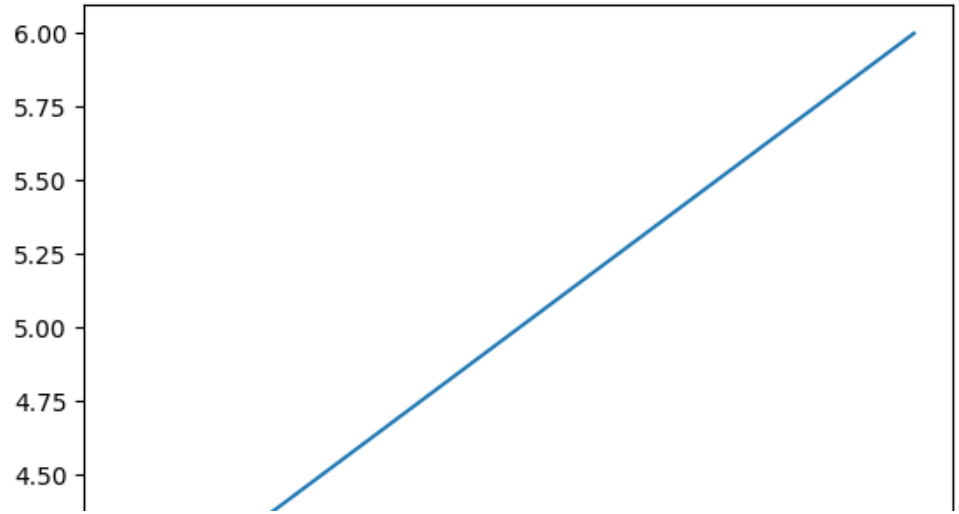

```
sns.pointplot(x='transactions',y='coupon_discount',data=coupon)
```

```
<Axes: xlabel='transactions', ylabel='coupon_discount'>
```



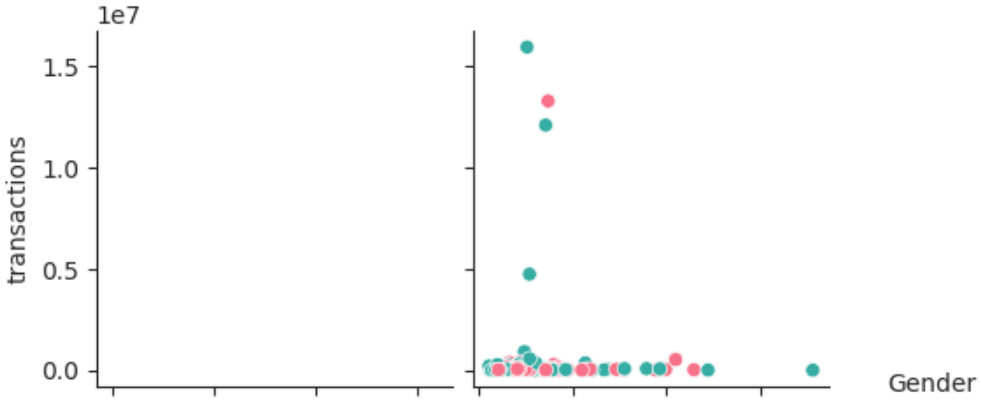

```
plt.plot([1,2,3],[4,5,6])
```

```
[<matplotlib.lines.Line2D at 0x7f4567a1fb20>]
```




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

```
import seaborn as sns
from matplotlib import pyplot as plt
coupon=pd.read_csv("COUPON.CSV")
sns.set_style("ticks")
sns.pairplot(coupon,hue = 'Gender',diag_kind = "coupon",kind = "scatter",palette = "husl")
plt.show()
```



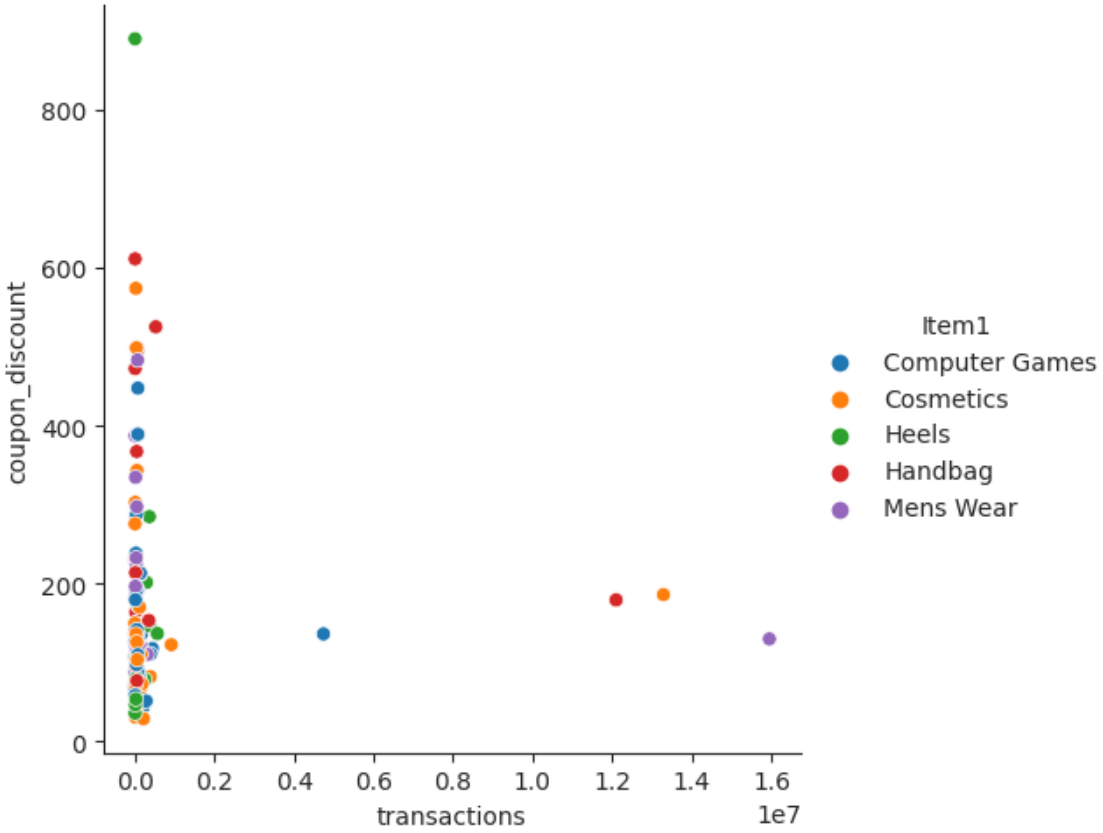

```
sns.pointplot( x="transactions", y="coupon_discount", data=coupon)
plt.show()
coupon=pd.read_csv("COUPON.CSV")
coupon.head()
```


```
sns.relplot(data=coupon,·x="transactions",·y="coupon_discount",·hue="Gender",col="Item1",col_wrap=3)
```

```
<seaborn.axisgrid.FacetGrid at 0x7f455c126d60>
```

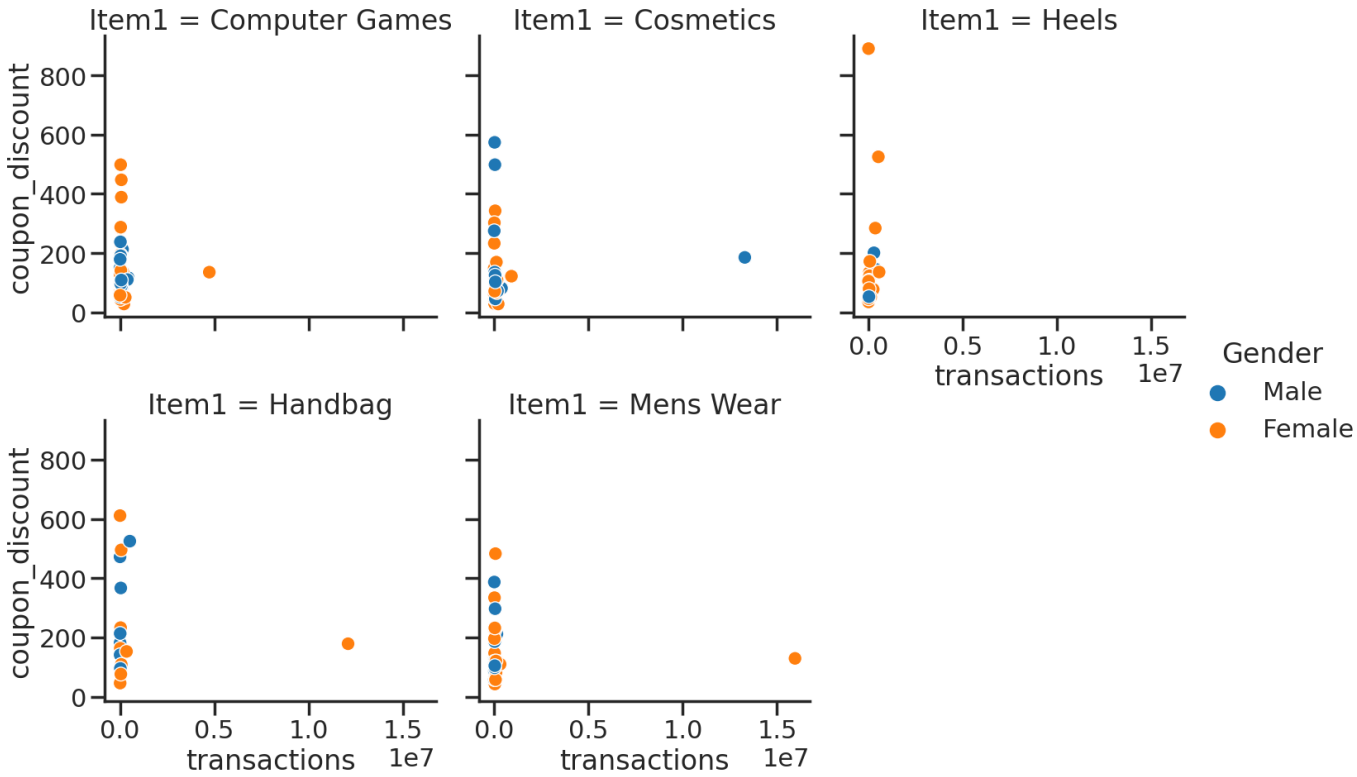

```
sns.relplot(data=coupon, x="transactions", y="coupon_discount", hue="Item1")
```

```
<seaborn.axisgrid.FacetGrid at 0x7f455a87beb0>
```



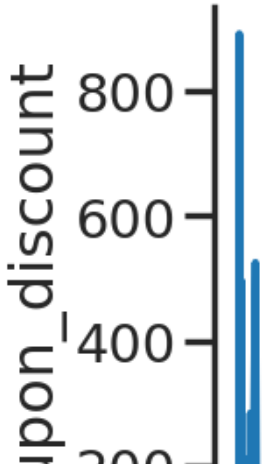

```
sns.set_context("poster") # increases plot size
sns.relplot(data=coupon, x="transactions", y="coupon_discount", hue="Gender",col="Item1",col_wrap=3)
```

```
<seaborn.axisgrid.FacetGrid at 0x7f455a7d2e20>
```

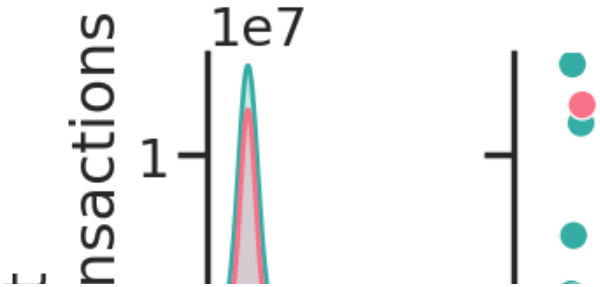



```
sns.set_context("poster")
sns.relplot(data=coupon, x="transactions", y="coupon_discount", kind="line",ci=None)
```

```
/usr/local/lib/python3.9/dist-packages/seaborn/axisgrid.py:848: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

  func(*plot_args, **plot_kwargs)
<seaborn.axisgrid.FacetGrid at 0x7f455c6da7c0>
```




```
import seaborn as sns
from matplotlib import pyplot as plt
coupon=pd.read_csv("COUPON.CSV")
sns.set_style("ticks")
sns.pairplot(coupon,hue = 'Gender',diag_kind = "kde",kind = "scatter",palette = "husl")
plt.show()
```

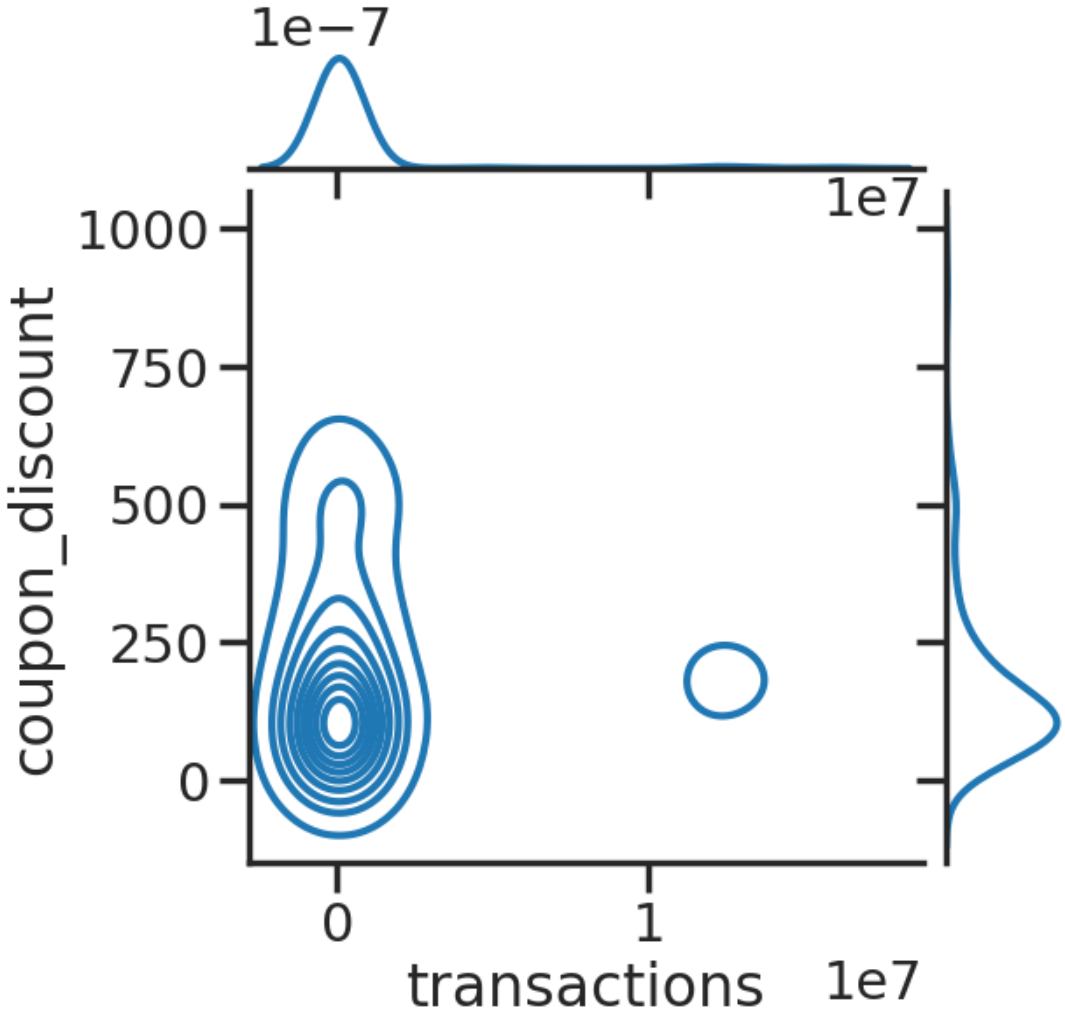



```
sns.jointplot(x='transactions', y='coupon_discount', data=coupon, kind='reg')
```

```
/usr/local/lib/python3.9/dist-packages/seaborn/axisgrid.py:1760: UserWarning: Tight layout not applied
  f.tight_layout()
```

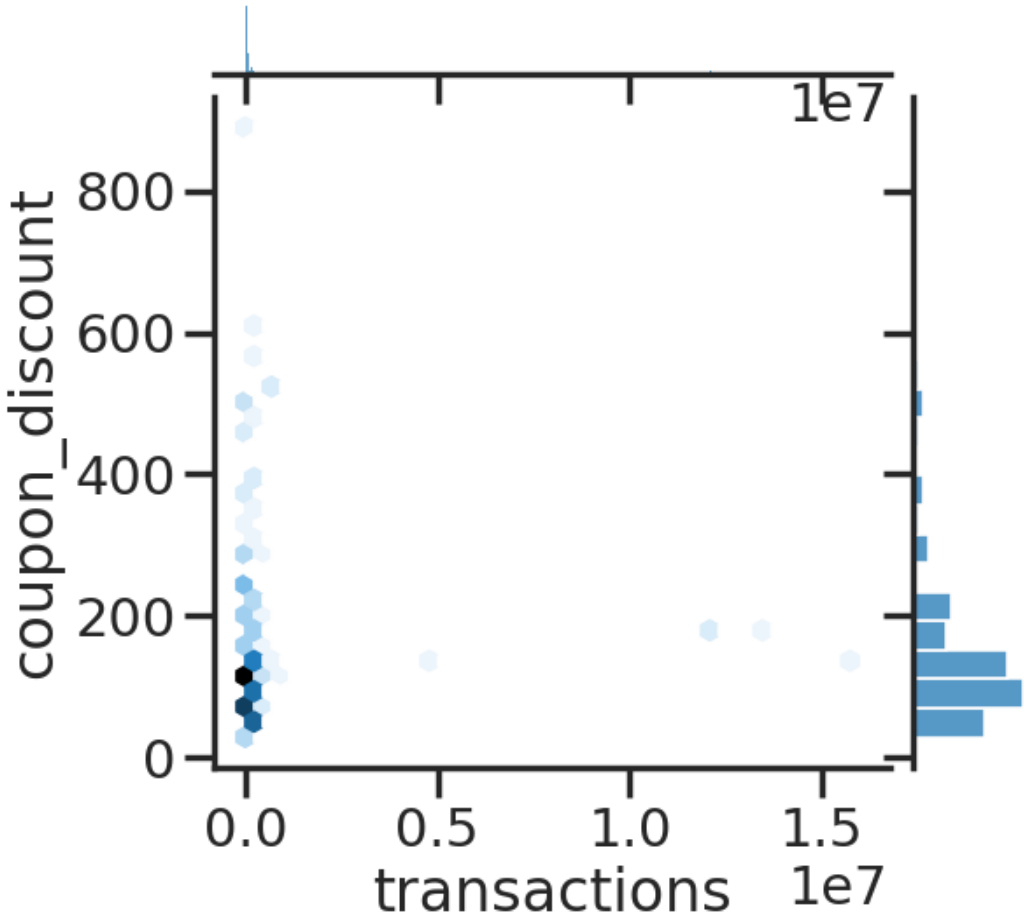
```
sns.jointplot(x='transactions',·y='coupon_discount',·data=coupon,·kind='kde')
```

```
/usr/local/lib/python3.9/dist-packages/seaborn/axisgrid.py:1760: UserWarning: Tight layout not applied
  f.tight_layout()
<seaborn.axisgrid.JointGrid at 0x7f455a91ba30>
```

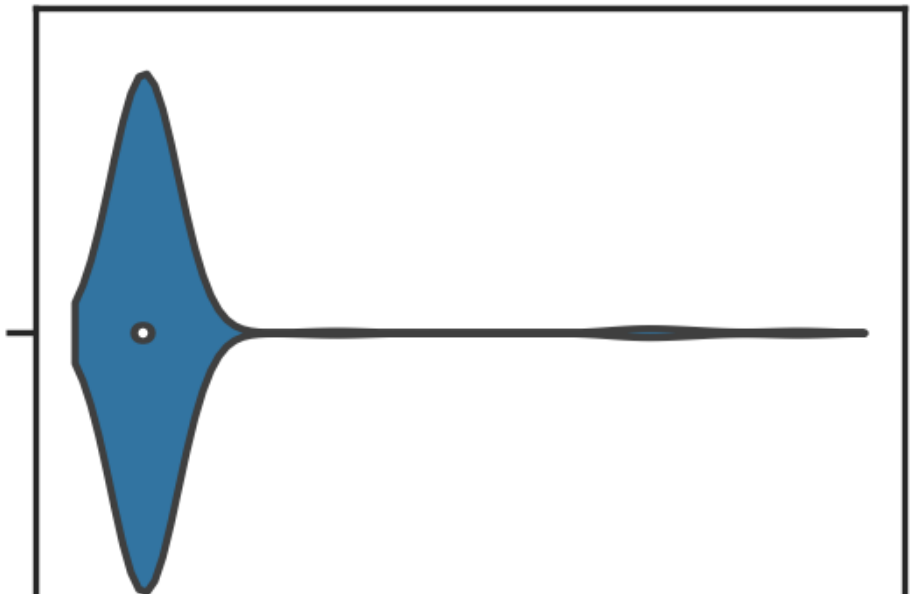



```
sns.jointplot(x='transactions', y='coupon_discount', data=coupon, kind='hex')
```

```
/usr/local/lib/python3.9/dist-packages/seaborn/axisgrid.py:1760: UserWarning: Tight layout not applied
  f.tight_layout()
<seaborn.axisgrid.JointGrid at 0x7f45599e2dc0>
```



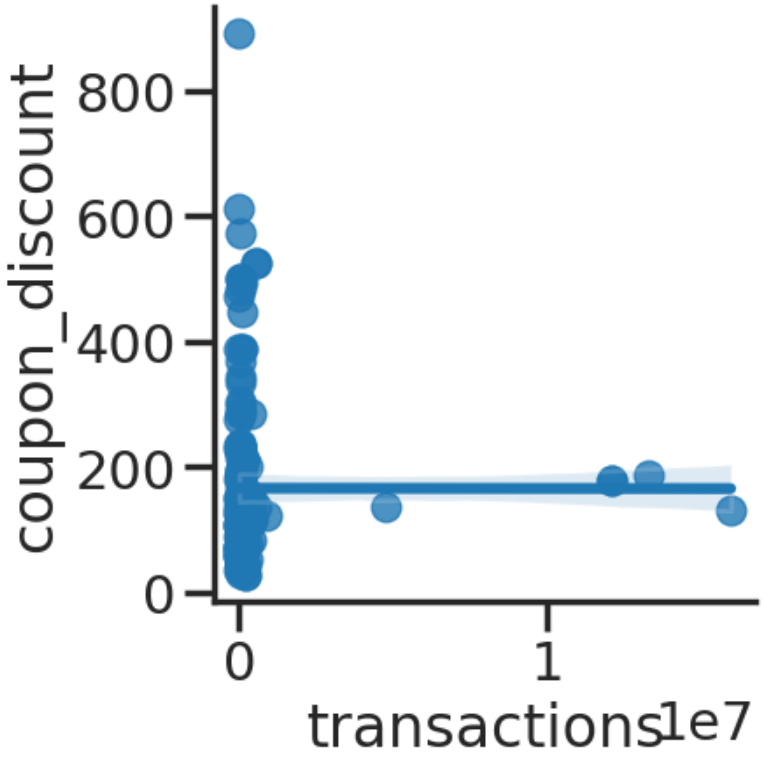

```
ax = sns.violinplot(x=coupon['transactions'])
```



```
ax = sns.violinplot(x=coupon['coupon_discount'])
```

```
sns.lmplot(x='transactions', y='coupon_discount', data=coupon)
```

```
<seaborn.axisgrid.FacetGrid at 0x7f4556b24d30>
```



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