

▼ Chapter 7 - Exercise 1: Tips

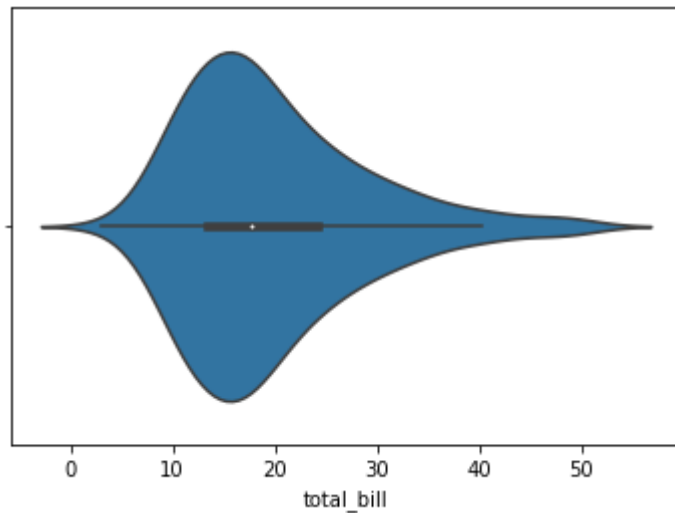
- ▼ Cho dữ liệu tips có sẵn trong seaborn library. Hãy vẽ những biểu đồ theo yêu cầu:

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

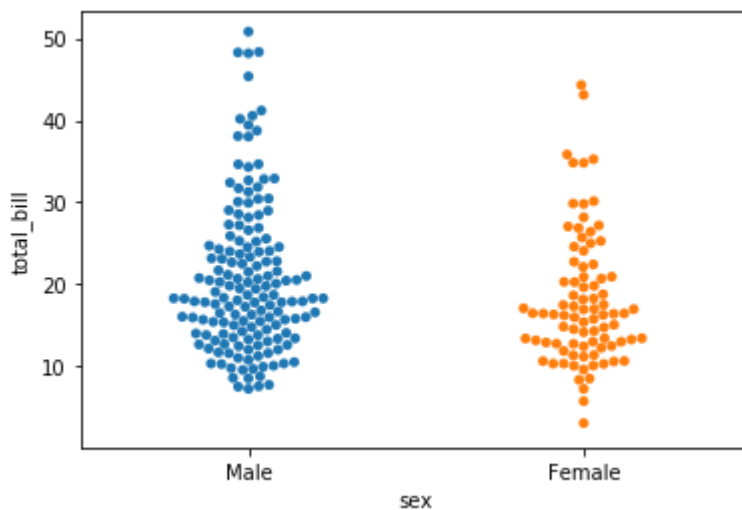
```
# Load dữ liệu tips có sẵn trong seaborn library
#total_bill: Total bill (cost of the meal), including tax, in US dollars
#tip: Tip (gratuity) in US dollars
#sex: Sex of person paying for the meal (0=male, 1=female)
#smoker: Smoker in party? (0=No, 1=Yes)
#day: 3=Thur, 4=Fri, 5=Sat, 6=Sun
#time: 0=Day, 1=Night
#size: Size of the party
tips = sns.load_dataset("tips")
tips.info()
tips.tail(10)
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 244 entries, 0 to 243
Data columns (total 7 columns):
total_bill    244 non-null float64
tip           244 non-null float64
sex           244 non-null category
smoker        244 non-null category
day           244 non-null category
time          244 non-null category
size          244 non-null int64
dtypes: category(4), float64(2), int64(1)
memory usage: 7.3 KB
```

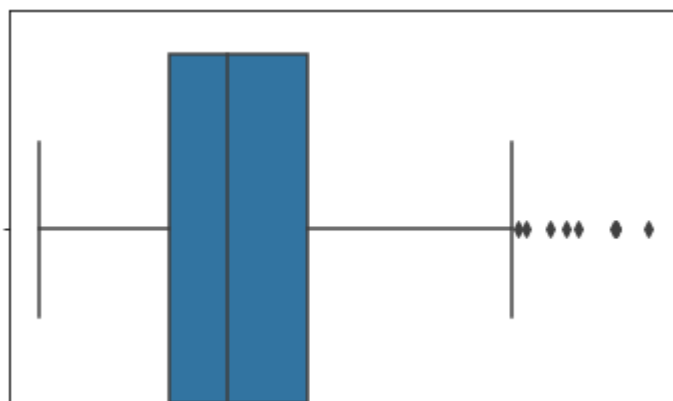
	total_bill	tip	sex	smoker	day	time	size
234	15.53	3.00	Male	Yes	Sat	Dinner	2
235	10.07	1.25	Male	No	Sat	Dinner	2
236	12.60	1.00	Male	Yes	Sat	Dinner	2
237	32.83	1.17	Male	Yes	Sat	Dinner	2
238	35.83	4.67	Female	No	Sat	Dinner	3
239	29.03	5.92	Male	No	Sat	Dinner	3
240	27.18	2.00	Female	Yes	Sat	Dinner	2
241	22.67	2.00	Male	Yes	Sat	Dinner	2
242	17.82	1.75	Male	No	Sat	Dinner	2



```
# Câu 2: Vẽ swarmplot cho cột total_bill theo sex
# Bạn nhận xét gì về biểu đồ vừa tạo
sns.swarmplot(x="sex", y="total_bill", data=tips)
plt.show()
```



```
# Câu 3: Vẽ boxplot cho cột total_bill
# Bạn nhận xét gì về biểu đồ vừa tạo
sns.boxplot(x="total_bill", data=tips)
plt.show()
```



```

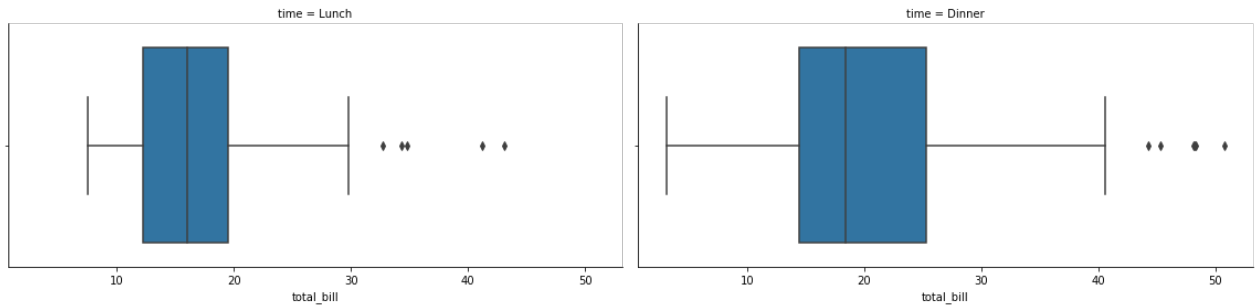
# Bạn nhận xét gì về biểu đồ vừa tạo
plt.figure(figsize=(8,6))
fg = sns.FacetGrid(data=tips, col="time", col_order=['Lunch', 'Dinner'], height=4)

fg.map(sns.boxplot, 'total_bill', order=None)

plt.show()
plt.clf()

```

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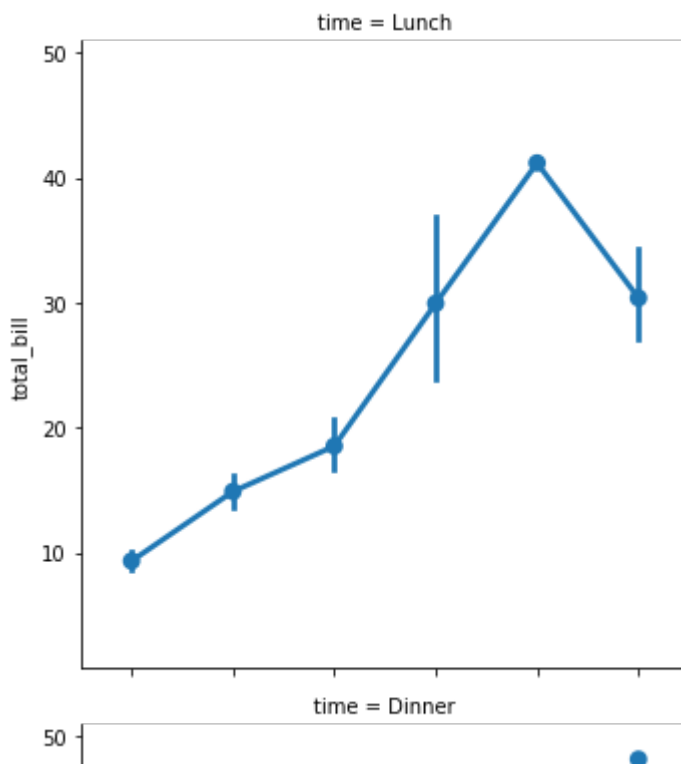
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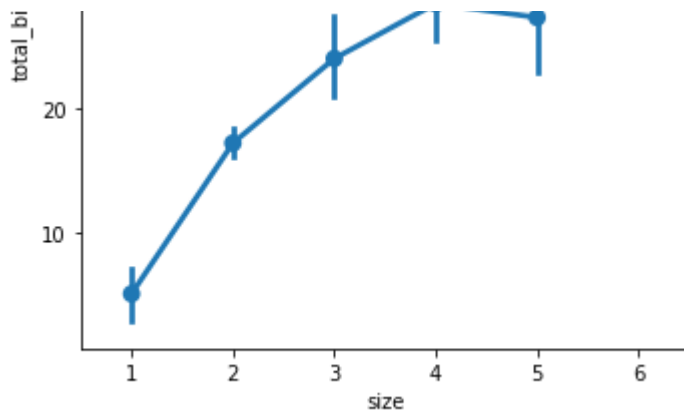
```

# Câu 5: Tạo catplot chứa point plot của giá trị 'total_bill' thay đổi theo size
# Bạn nhận xét gì về biểu đồ vừa tạo
sns.catplot(data=tips, x='size', y='total_bill', kind='point', row='time')

plt.show()
plt.clf()

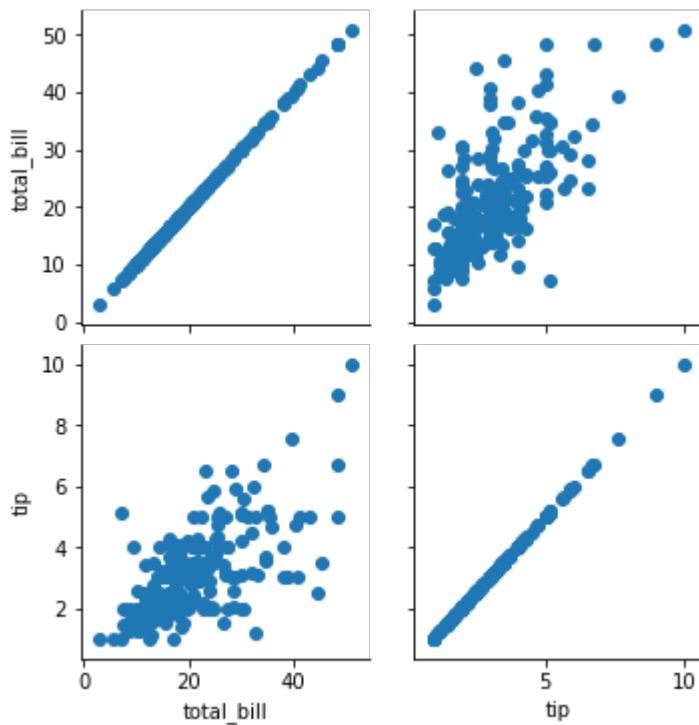
```



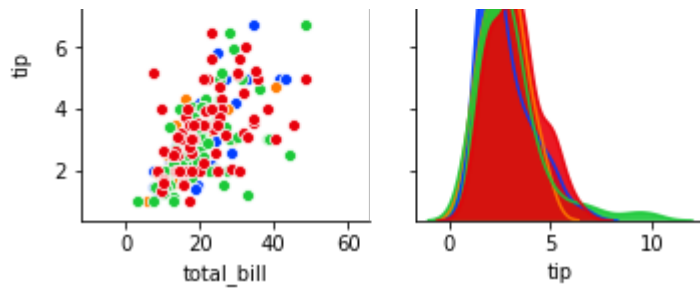


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```
# Câu 6: Tạo PairGrid với scatter plot thể hiện liên quan giữa "total_bill" và "tip"
# Bạn nhận xét gì về biểu đồ vừa tạo
pg = sns.PairGrid(data=tips, vars=["total_bill", "tip"])
pg2 = pg.map(plt.scatter)
plt.show()
plt.clf()
```



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<Figure size 432x288 with 0 Axes>

