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Roll no: 625

Div: F Batch:

F2

```
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).
```

```
import pandas as pd import numpy as
np import matplotlib.pyplot as plt
from pandas import Series, DataFrame
```

```
# Reading the tips.csv file
df1=pd.read_csv('/content/drive/MyDrive/Colab Notebooks/tips.csv')
df1.head()
```

| | total_bill | tip | sex | smoker | day | time | size |
|---|---|---|---|---|---|---|---|
| 0 | 16.99 | 1.01 | Female | No | Sun | Dinner | 2 |
| 1 | 10.34 | 1.66 | Male | No | Sun | Dinner | 3 |
| 2 | 21.01 | 3.50 | Male | No | Sun | Dinner | 3 |
| 3 | 23.68 | 3.31 | Male | No | Sun | Dinner | 2 |
| 4 | 24.59 | 3.61 | Female | No | Sun | Dinner | 4 |

```
df1.tail()
```

| | total_bill | tip | sex | smoker | day | time | size |
|---|---|---|---|---|---|---|---|
| 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 |
| 243 | 18.78 | 3.00 | Female | No | Thur | Dinner | 2 |

```
df1.columns
```

```
Index(['total_bill', 'tip', 'sex', 'smoker', 'day', 'time', 'size'], dtype='object')
```

```
df1.info()
```

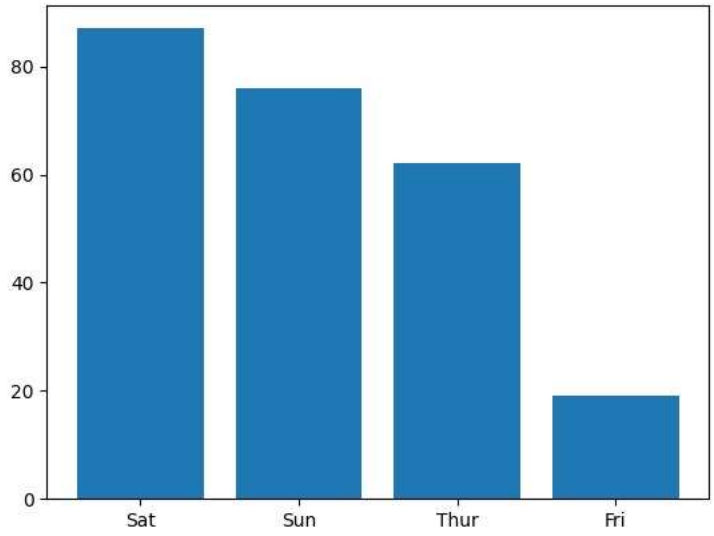
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 244 entries, 0 to 243
Data columns (total 7 columns):
 #   Column      Non-Null Count  Dtype
---  ------      --------------  -----
0   total_bill  244 non-null    float64
1   tip         244 non-null    float64
2   sex         244 non-null    object
3   smoker      244 non-null    object
4   day         244 non-null    object
5   time        244 non-null    object
6   size        244 non-null    int64

dtypes: float64(2), int64(1), object(4)
memory usage: 13.5+ KB
```

```
df1.describe()
```

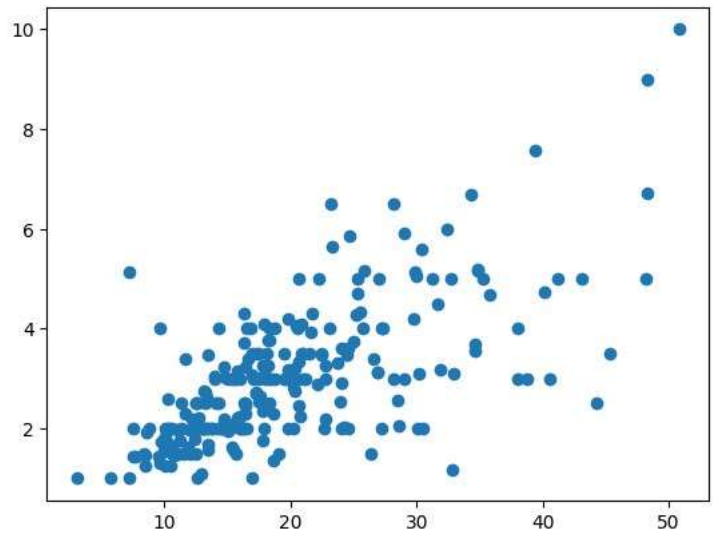
| | total_bill | tip | size |
|---|---|---|---|
| count | 244.000000 | 244.000000 | 244.000000 |
| mean | 19.785943 | 2.998279 | 2.569672 |
| std | 8.902412 | 1.383638 | 0.951100 |
| min | 3.070000 | 1.000000 | 1.000000 |
| 25% | 13.347500 | 2.000000 | 2.000000 |
| 50% | 17.795000 | 2.900000 | 2.000000 |
| 75% | 24.127500 | 3.562500 | 3.000000 |
| max | 50.810000 | 10.000000 | 6.000000 |

```
a=pd.DataFrame(df1['day'].value_counts())
a.reset_index(inplace=True)
plt.bar(a['index'],a['day'])
```

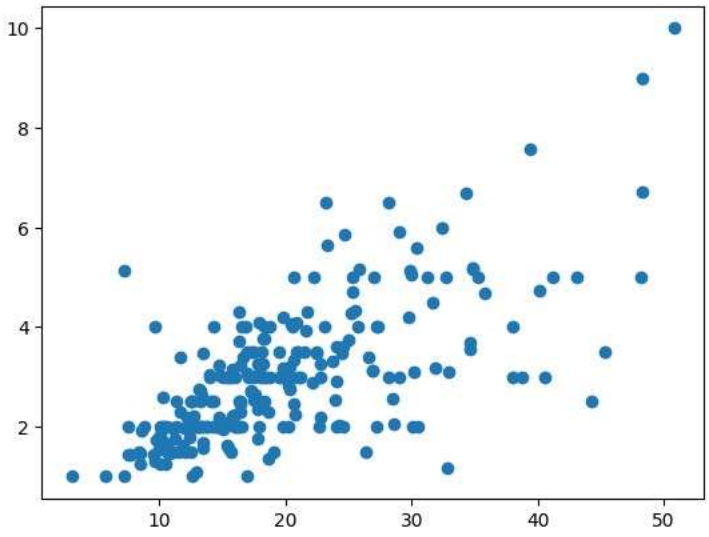
```
<BarContainer object of 4 artists>
```

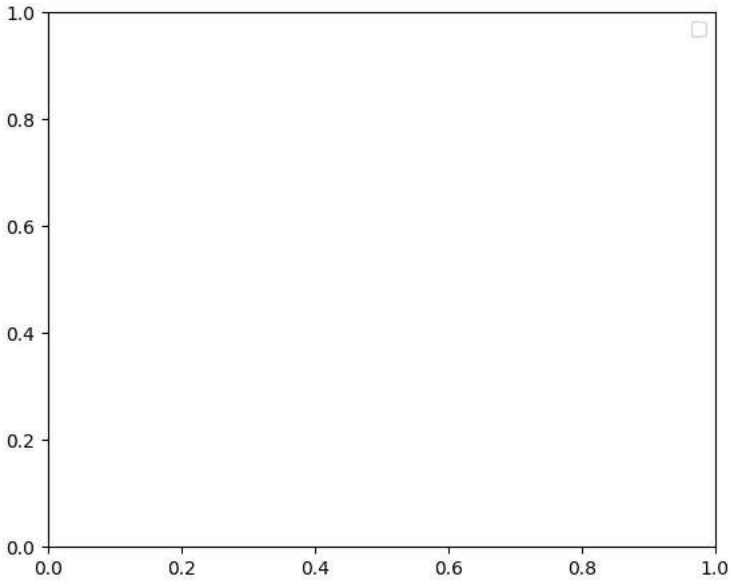



```
plt.scatter(df1['total_bill'],df1['tip'])
plt.show()
```

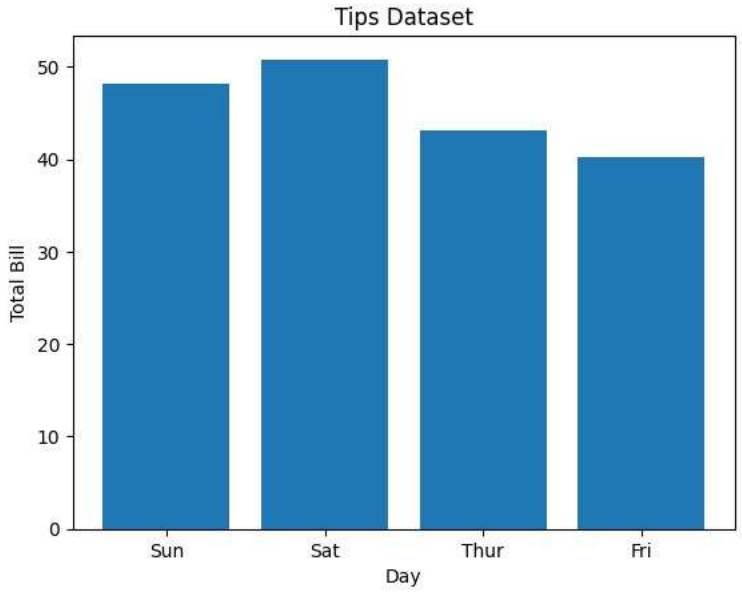



```
plt.scatter(x='total_bill',y='tip',data=df1)
fig=plt.figure(figsize=(5,4))
ax=fig.add_axes([1,1,1,1])
ax.legend(labels=('sun','mon','tue'))
plt.show()
```



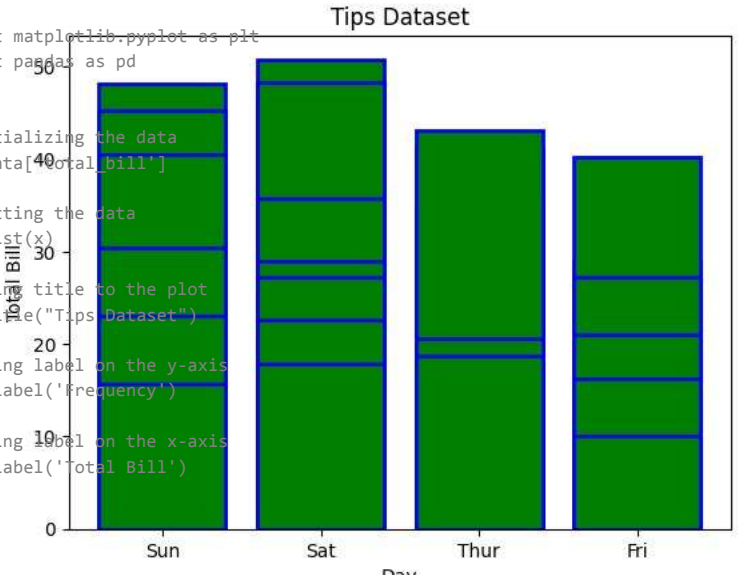



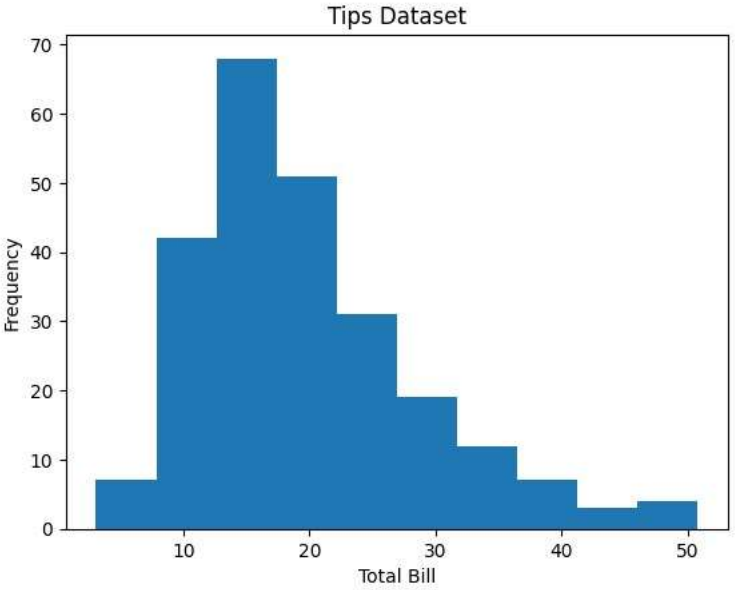

```
#Different types of Matplotlib Plots
#bar chart import matplotlib.pyplot
as plt import pandas as pd

# Reading the tips.csv file data =
pd.read_csv('/content/drive/MyDrive/Colab Notebooks/tips.csv')

# initializing the data
x = data['day'] y =
data['total_bill']

# plotting the data
plt.bar(x, y)

# Adding title to the plot
plt.title("Tips Dataset")

# Adding label on the y-axis
plt.ylabel('Total Bill')

# Adding label on the x-axis
plt.xlabel('Day')

plt.show()
```



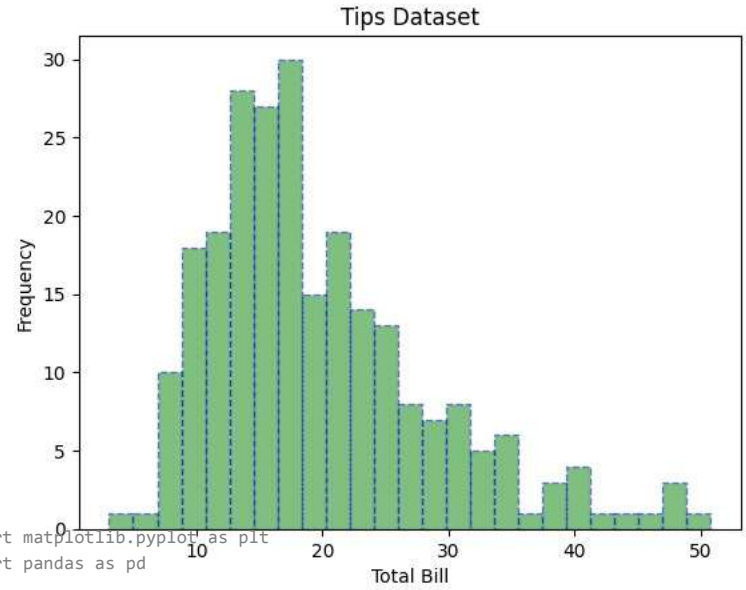

```
import matplotlib.pyplot as plt
import pandas as pd



# initializing the data
x = data['day'] y =
data['total_bill']

# plotting the data plt.bar(x, y,
color='green', edgecolor='blue',
linewidth=2)

# Adding title to the plot
plt.title("Tips Dataset")

# Adding label on the y-axis
plt.ylabel('Total Bill')

# Adding label on the x-axis

plt.xlabel('Day') plt.show()
```

```
import matplotlib.pyplot as plt
import pandas as pd


# initializing the data
x = data['total_bill']

# plotting the data
plt.hist(x)

# Adding title to the plot
plt.title("Tips Dataset")

# Adding label on the y-axis
plt.ylabel('Frequency')

# Adding label on the x-axis
plt.xlabel('Total Bill')
```

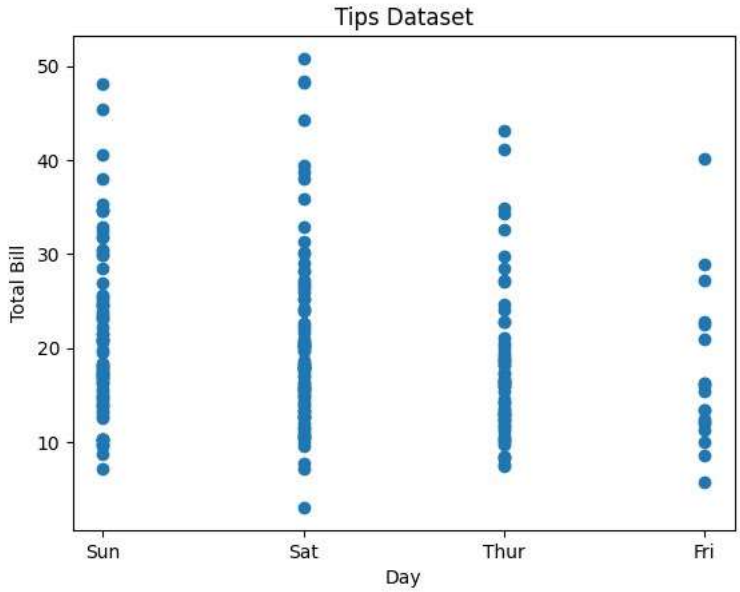



```
plt.show                                                    ()


import matplotlib.pyplot as plt
import pandas as pd



# initializing the data
x = data['total_bill']

# plotting the data plt.hist(x, bins=25,
color='green', edgecolor='blue',         linestyle='-
-', alpha=0.5)

# Adding title to the plot
plt.title("Tips Dataset")

# Adding label on the y-axis
plt.ylabel('Frequency')

# Adding label on the x-axis

plt.xlabel('Total Bill')

plt.show()
```

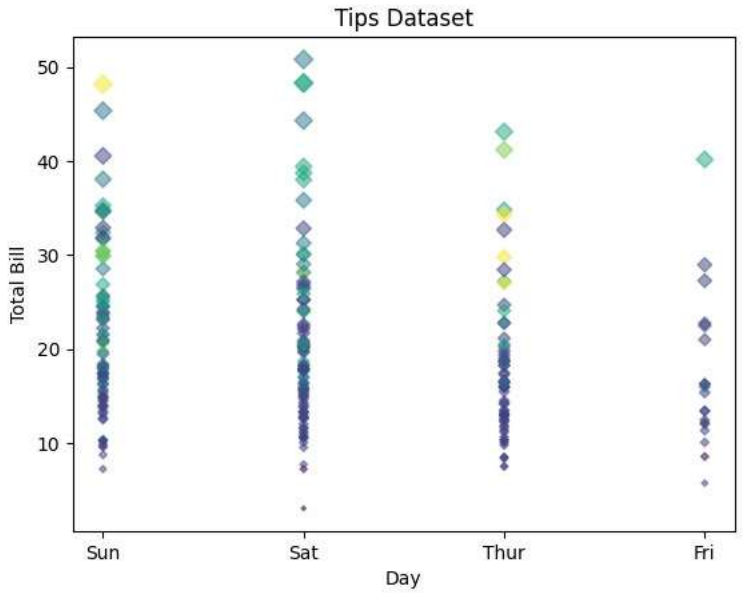



```
import matplotlib.pyplot as plt
import pandas as pd


# initializing the data
x = data['day'] y =
data['total_bill']

# plotting the data
plt.scatter(x, y)

# Adding title to the plot
plt.title("Tips Dataset")

# Adding label on the y-axis
plt.ylabel('Total Bill')

# Adding label on the x-axis

plt.xlabel('Day') plt.show()
```



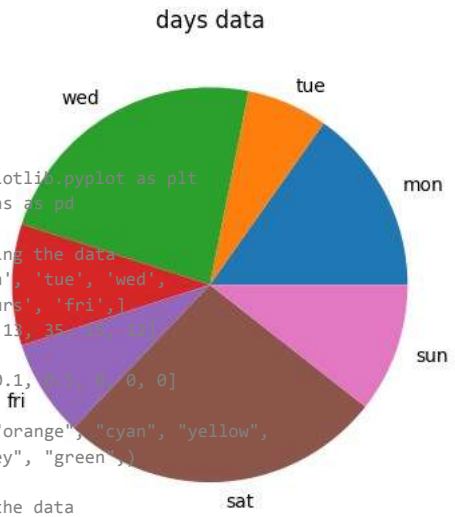

```
import matplotlib.pyplot as plt
import pandas as pd


# initializing the data
x = data['day']

y = data['total_bill']
```

```
# plotting the data plt.scatter(x, y, c=data['size'],
s=data['total_bill'],             marker='D',
alpha=0.5)

# Adding title to the plot
plt.title("Tips Dataset")

# Adding label on the y-axis
plt.ylabel('Total Bill')

# Adding label on the x-axis

plt.xlabel('Day') plt.show()
```



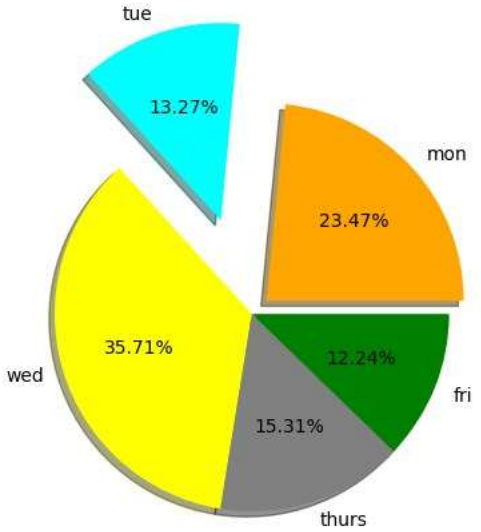

```
import matplotlib.pyplot as plt
import pandas as pd


# initializing the data day = ['mon',
'tue', 'wed',          'thurs', 'fri',
'sat', 'sun'] data = [23, 10, 35, 15,
12, 40, 16]

# plotting the data
plt.pie(data, labels=day)

# Adding title to the plot

plt.title("days data")

plt.show()
```

```
plt.pie
```

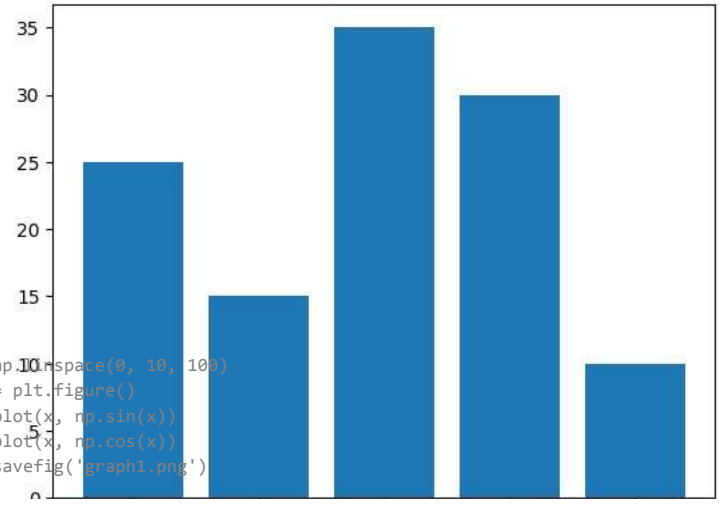



```
import matplotlib.pyplot as plt
import pandas as pd

# initializing the data
days = ['mon', 'tue', 'wed',
        'thurs', 'fri',]
data = [23, 13, 35, 30, 12]

explode = [0.1, 0.5, 0, 0, 0]

colors = ( "orange", "cyan", "yellow",
          "grey", "green", )

# plotting the data
```

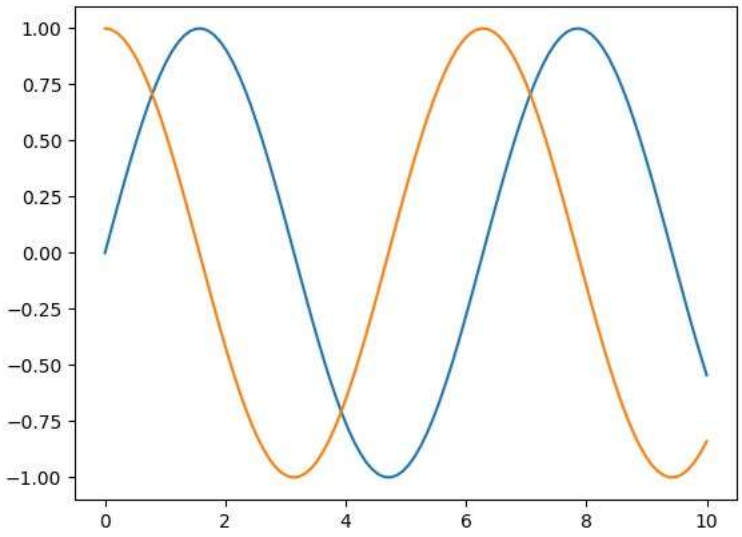
```
(data, labels=days, explode=explode, autopct='%1.2f%%',
colors=colors, shadow=True) plt.show()
```




```
import matplotlib.pyplot as plt

# Creating data year = ['sat', 'sun',
'thurs', 'mon', 'tue'] production = [25, 15,
35, 30, 10]

# Plotting barchart
plt.bar(year, production)

# Saving the figure.
plt.savefig("output.jpg")

# Saving figure by changing parameter values
plt.savefig("output1", facecolor='y', bbox_inches="tight",
pad_inches=0.3, transparent=True)
```




```
x = np.linspace(0, 10, 100)
fig = plt.figure()
plt.plot(x, np.sin(x))
plt.plot(x, np.cos(x))
fig.savefig('graph1.png')
```

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