In [ ]:
```
Matplotlib is a low level graph libarary

or

matplotlib is a 2D plotting libaray


Matpltlib is created by John  D Hunter
matplotlib is introduced in 2003
```

In [1]:
```
!pip install matplotlib
```

```
Requirement already satisfied: matplotlib in c:\users\dhruv\appdata\local\programs\p
ython\python38\lib\site-packages (3.7.1)
Requirement already satisfied: contourpy>=1.0.1 in c:\users\dhruv\appdata\local\prog
rams\python\python38\lib\site-packages (from matplotlib) (1.0.7)
Requirement already satisfied: cycler>=0.10 in c:\users\dhruv\appdata\local\programs
\python\python38\lib\site-packages (from matplotlib) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\dhruv\appdata\local\pro
grams\python\python38\lib\site-packages (from matplotlib) (4.39.4)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\dhruv\appdata\local\pro
grams\python\python38\lib\site-packages (from matplotlib) (1.4.4)
Requirement already satisfied: numpy>=1.20 in c:\users\dhruv\appdata\local\programs
\python\python38\lib\site-packages (from matplotlib) (1.24.2)
Requirement already satisfied: packaging>=20.0 in c:\users\dhruv\appdata\local\progr
ams\python\python38\lib\site-packages (from matplotlib) (23.0)
Requirement already satisfied: pillow>=6.2.0 in c:\users\dhruv\appdata\local\program
s\python\python38\lib\site-packages (from matplotlib) (9.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\dhruv\appdata\local\prog
rams\python\python38\lib\site-packages (from matplotlib) (3.0.9)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\dhruv\appdata\local
\programs\python\python38\lib\site-packages (from matplotlib) (2.8.2)
Requirement already satisfied: importlib-resources>=3.2.0 in c:\users\dhruv\appdata
\local\programs\python\python38\lib\site-packages (from matplotlib) (5.12.0)
Requirement already satisfied: zipp>=3.1.0 in c:\users\dhruv\appdata\local\programs
\python\python38\lib\site-packages (from importlib-resources>=3.2.0->matplotlib) (3.
15.0)
Requirement already satisfied: six>=1.5 in c:\users\dhruv\appdata\local\programs\pyt
hon\python38\lib\site-packages (from python-dateutil>=2.7->matplotlib) (1.16.0)
```

In [2]:
```
import matplotlib.pyplot as plt
```

In [ ]:
```
x = (1,2,3,4,5,5,7)
y= (23,24,56,14,36,45,41)

plt.plot(x,y)
plt.show()
```

In [ ]:
```python
x = [1,2,3,4,5,5,7]
y= [23,24,56,14,36,45,41]

plt.plot(x,y,linewidth=5)
plt.show()
```

In [ ]:
```python
x = [1,2,3,4,5,5,7]
y= [23,24,56,14,36,45,41]

plt.title("First Plot")
plt.xlabel("X-Label")
plt.ylabel("X-Label")
plt.grid()
plt.plot(x,y,linewidth=5)
plt.show()
```

In [ ]:
```python
x2 = [1,2,3,4,5,5,7]
y2= [23,24,56,14,36,45,41]

plt.title("First Plot")
plt.xlabel("X-Label")
plt.ylabel("X-Label")
plt.grid(axis="y")
plt.plot(x,y,linewidth=5,color="#f2d100")
plt.show()
```

In [ ]:
```python
import matplotlib
```

In [ ]:
```python
print(matplotlib.style.available)
```

In [ ]:
```python
from matplotlib import style
```

In [ ]:
```python
x2 = [1,2,3,4,5,5,7]
y2= [23,24,56,14,36,45,41]

style.use("dark_background")
plt.title("First Plot")
plt.xlabel("X-Label")
plt.ylabel("X-Label")
plt.grid()
plt.plot(x,y,linewidth=5,color="#f2d100")
plt.show()
```

In [ ]:
```python
x2 = [1,2,3,4,5,5,7]
y2= [23,24,56,14,36,45,41]

style.use("dark_background")
plt.title("First Plot")
plt.xlabel("X-Label")
plt.ylabel("X-Label")
plt.grid()
plt.plot(x,y,linewidth=5,color="#f2d100")
plt.savefig("Download.png")
plt.show()
```

In [17]:
```python
x2 = [1,2,3,4,5,5,7]
y2= [23,24,56,14,36,45,41]


x3 = [1,6,7,8,5,5,12]
y3= [23,24,56,14,36,45,41]

#style.use("dark_background")
plt.title("First Plot")
plt.xlabel("X-Label")
plt.ylabel("X-Label")
plt.grid()
plt.plot(x2,y2,linewidth=5,color="#f2d100",label= "First plot",marker='o',markersize=
plt.plot(x3,y3,linewidth=5,color="#de37d0",label = "Second plot",marker='v',markersize
plt.legend()
plt.show()
```
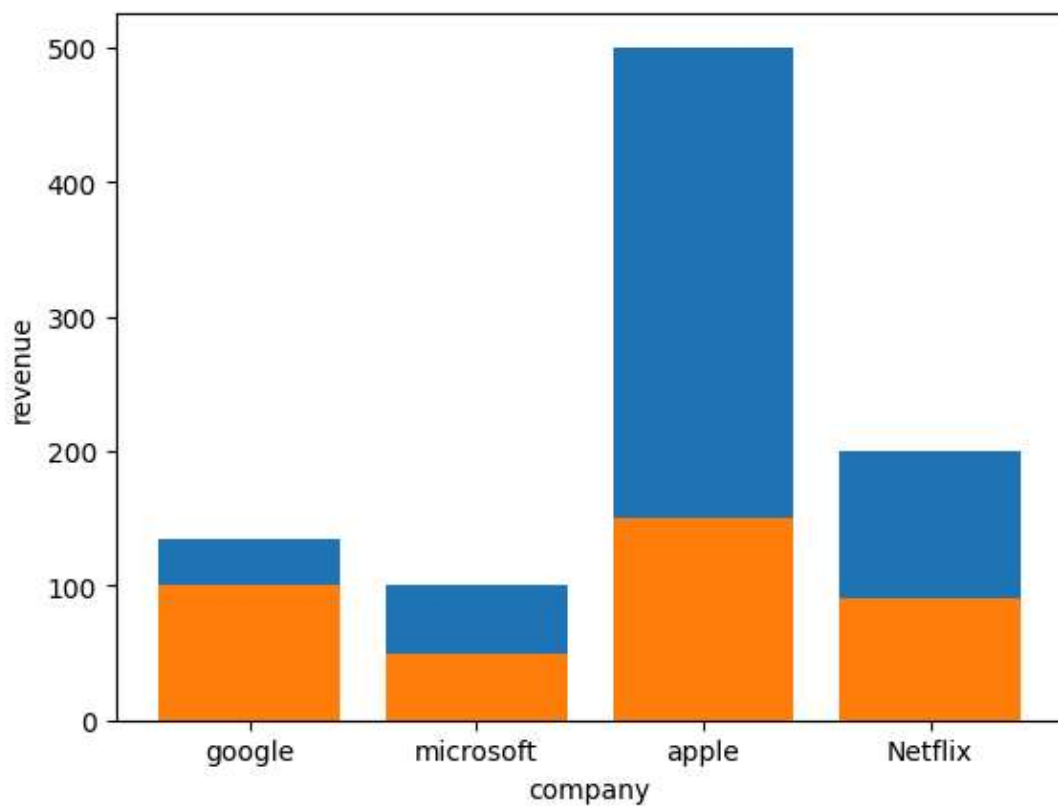

First Plot
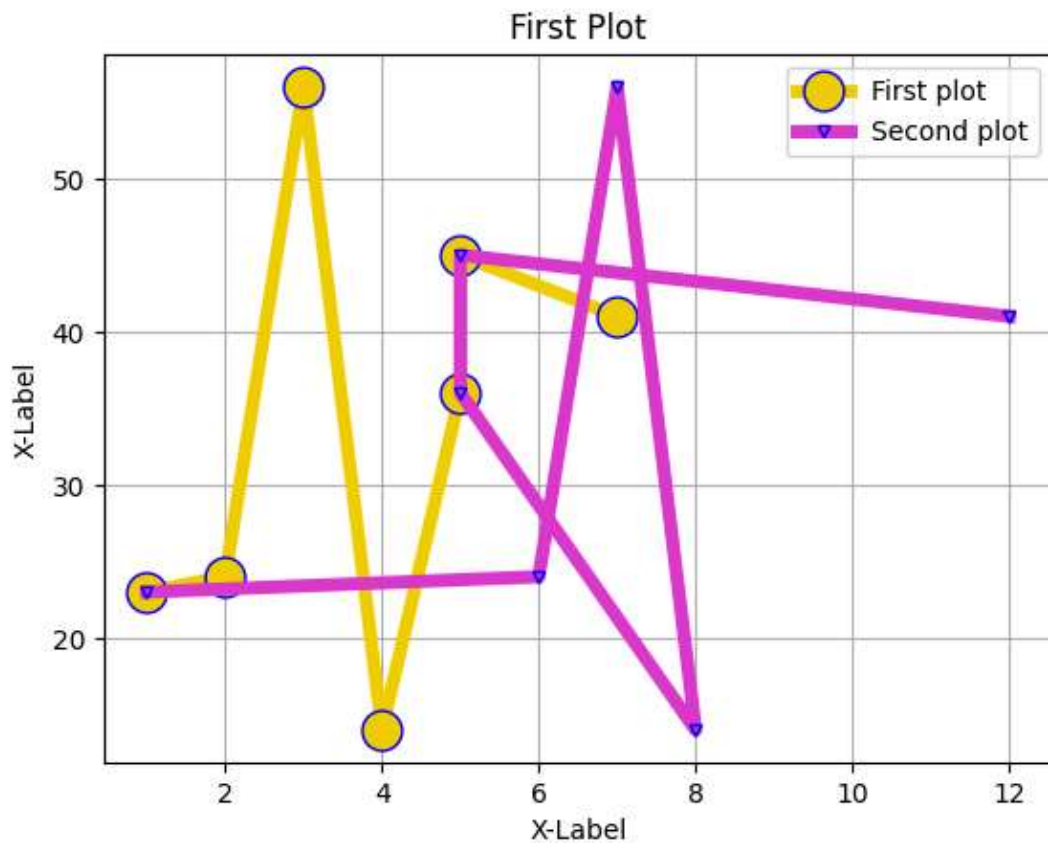
In [18]:
```python
import numpy as np
```

In [28]:
```python
company = ["google","microsoft","apple","Netflix"]

revenue = [135,100,500,200]
profit = [100,50,150,90]

x = np.arange(len(company))
plt.bar(company,revenue)
plt.bar(company,profit)
plt.xlabel("company")
plt.ylabel("revenue")
plt.show()
```
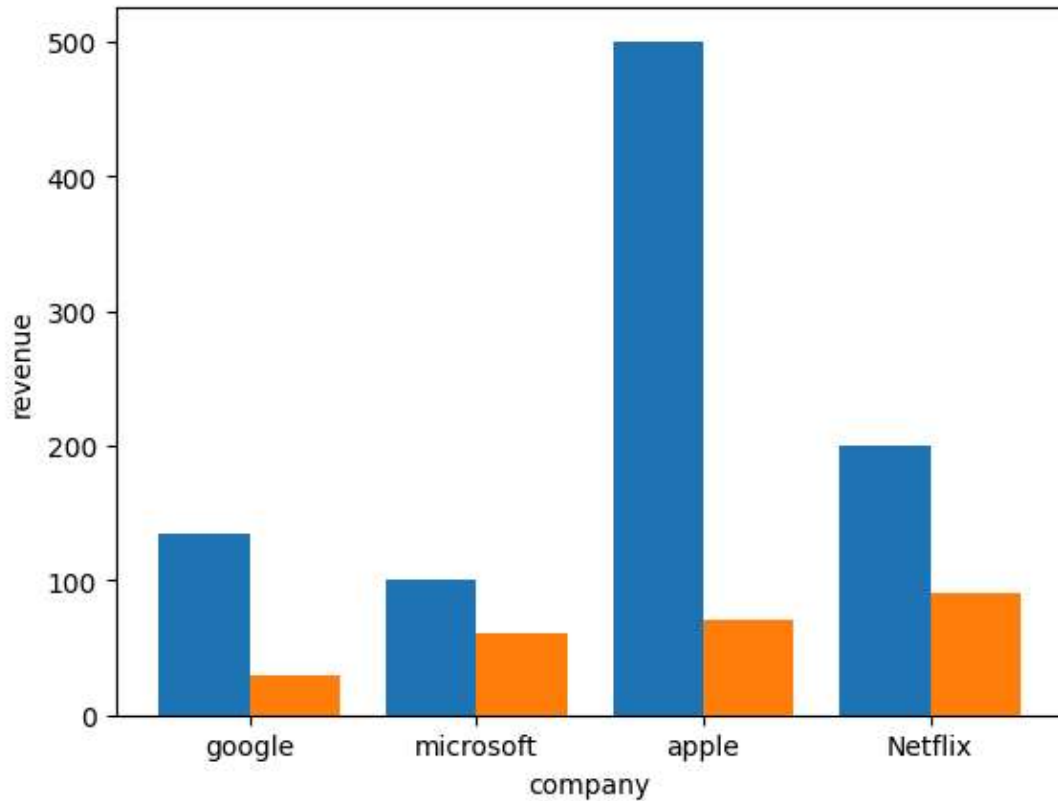
In [39]:
```python
company = ["google","microsoft","apple","Netflix"]

revenue = [135,100,500,200]
profit = [30,60,70,90]

x = np.arange(len(company))
plt.bar(x -0.2,revenue,width=0.4)
plt.bar(x+0.2,profit,width=0.4)
plt.xticks(x,company)
plt.xlabel("company")
plt.ylabel("revenue")
plt.show()
```
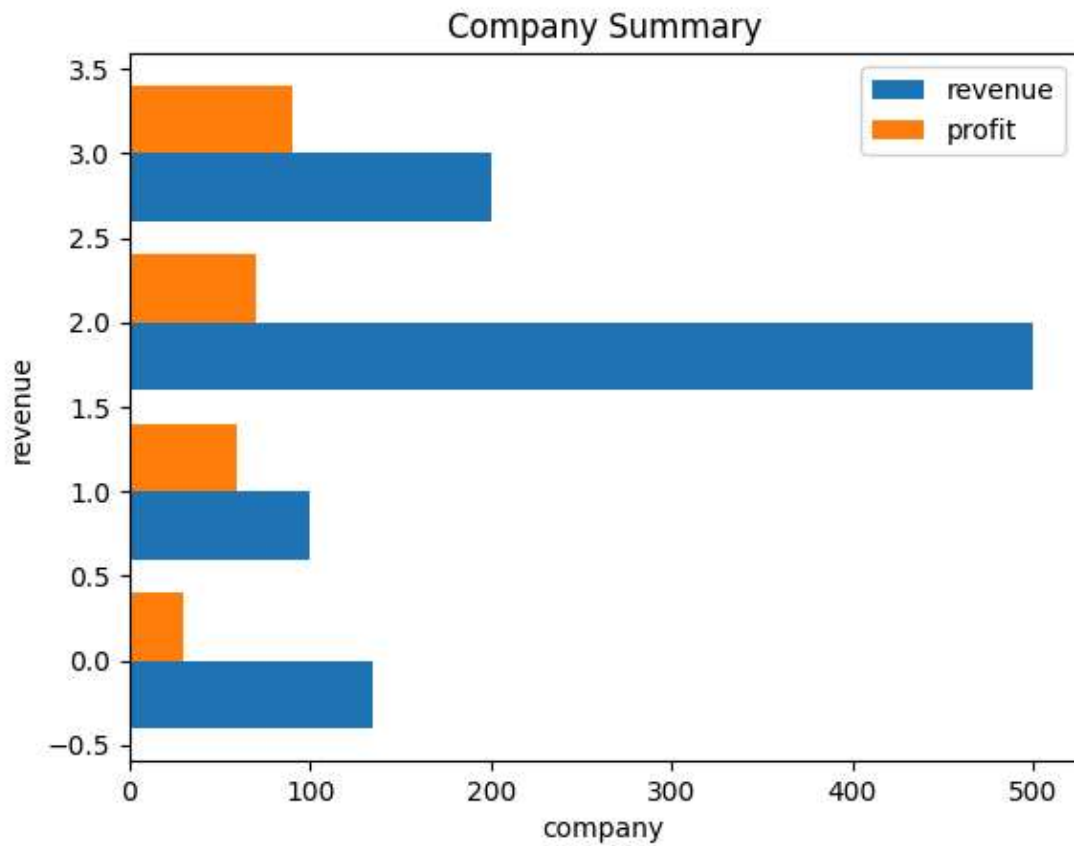
In [48]:
```python
company = ["google","microsoft","apple","Netflix"]

revenue = [135,100,500,200]
profit = [30,60,70,90]

x = np.arange(len(company))
plt.barh(x -0.2,revenue,height=0.4,label="revenue")
plt.barh(x+0.2,profit,height=0.4,label = "profit")
#plt.xticks(x,company)
plt.xlabel("company")
plt.title("Company Summary")
plt.ylabel("revenue")
plt.legend()
plt.show()
```


In [ ]: