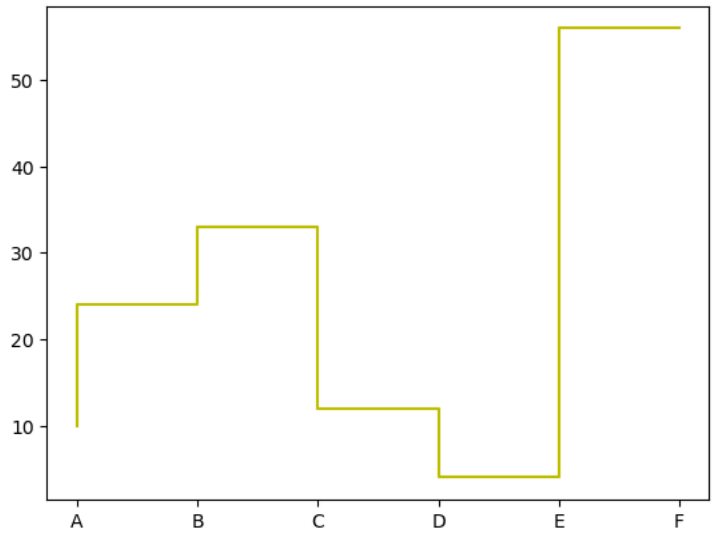
In [3]:
```
# step plot
# violin plot
# stairs plot
# wordcloud
# stem plot
# box plot
```

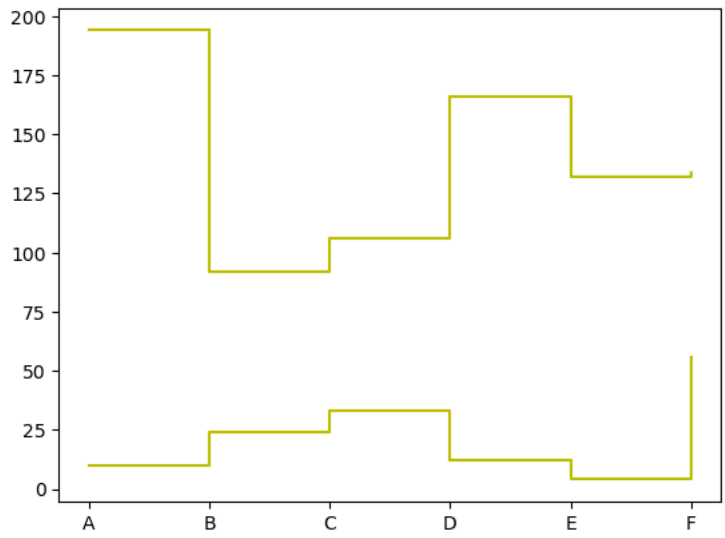
In [4]:
```
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
```

step Plot

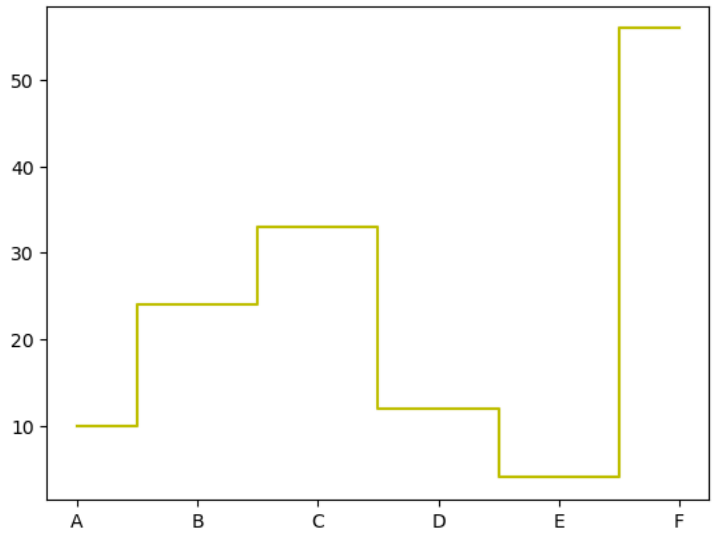
In [12]:
```
y = np.array([10,24,33,12,4,56])
x = list('ABCDEF')
plt.step(x,y,color='y')
plt.show()
```



In [40]:
```
y = np.array([10,24,33,12,4,56])
x = list('ABCDEF')
plt.step(x,y,y1,color='y',where='post')
plt.show()
```



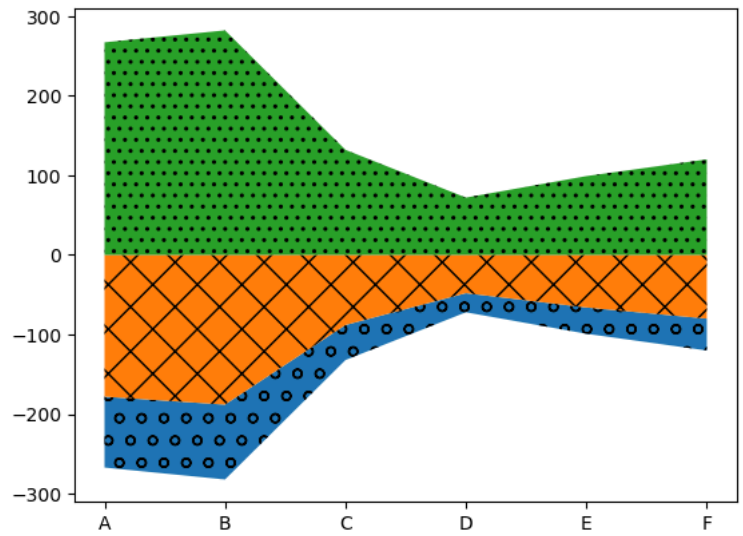
In [14]:
```
y = np.array([10,24,33,12,4,56])
x = list('ABCDEF')
plt.step(x,y,color='y',where='mid',)
plt.show()
```



Stack Plot

In [33]:
```
# {'zero', 'sym', 'wiggle', 'weighted_wiggle'}
y = np.random.randint(1,100,6)
y1 = y*2
y2 = y*3

print(y,y1,y2,sep='\n')
ax = plt.stackplot(x,y,y1,y2,baseline='sym')
ax[0].set_hatch('o')
ax[1].set_hatch('x')
ax[2].set_hatch('..')

plt.show()
```

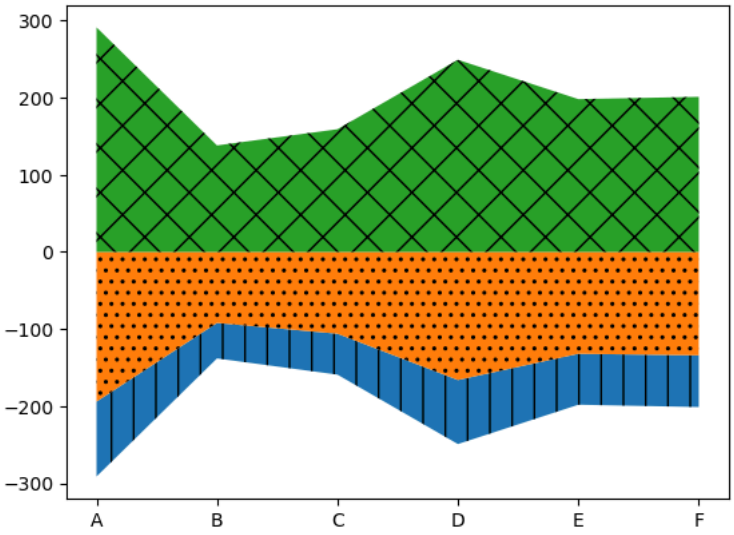
```
[89 94 44 24 33 40]
[178 188  88  48  66  80]
[267 282 132  72  99 120]
```



In [30]:
```
ax

```

Out[30]:
```
[<matplotlib.collections.PolyCollection at 0x233a5e83890>,
 <matplotlib.collections.PolyCollection at 0x233a5e90f50>,
 <matplotlib.collections.PolyCollection at 0x233a5e926d0>]
```

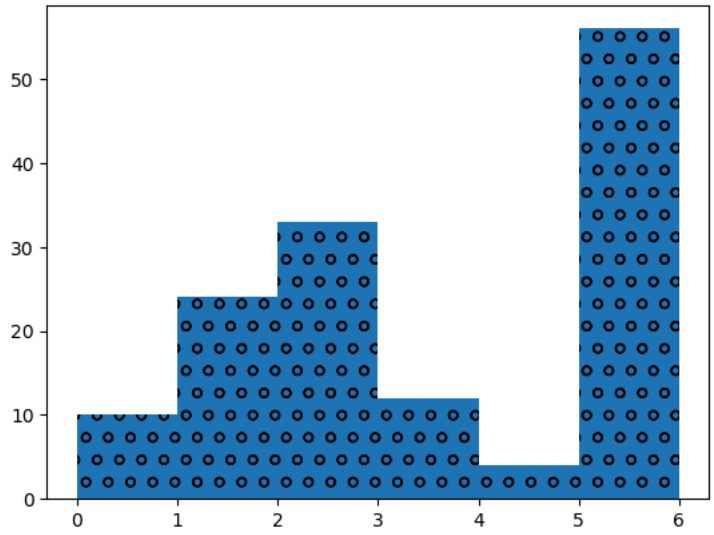
In [37]:
```
# {'zero', 'sym', 'wiggle', 'weighted_wiggle'}
y = np.random.randint(1,100,6)
y1 = y*2
y2 = y*3

# print(y,y1,y2,sep='\n')
hatch = ['|','..','x']
ax = plt.stackplot(x,y,y1,y2,baseline='sym')

for i in range(len(hatch)):
    ax[i].set_hatch(hatch[i])

plt.show()
```



Stairs plot

In [44]:
```
plt.stairs(y,fill=True,hatch='o')
```

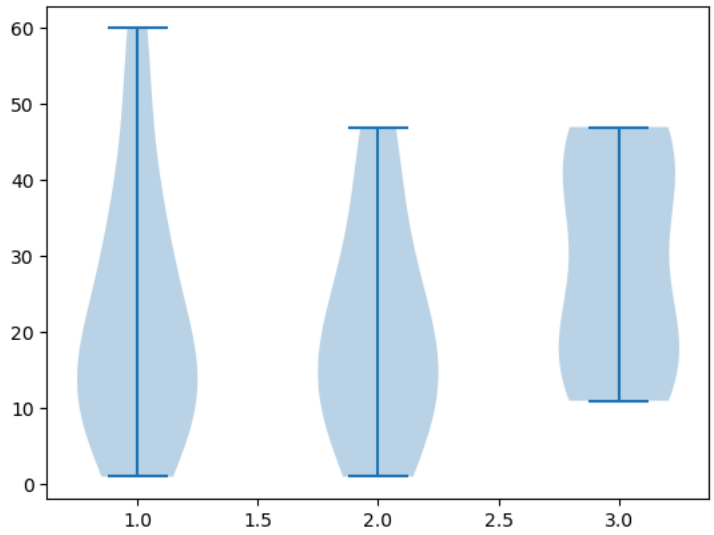
Out[44]: <matplotlib.patches.StepPatch at 0x233a708e9d0>



In [ ]:
```

```

In [46]:
```
# violin plot(data frequency dist):- outliers
```

In [55]:
```
y1 = np.array([1,2,5,10,12,12,13,14,15,16,20,25,28,30,35,40,50,60])
plt.violinplot([y1,y2,y3])
plt.show()
```



In [56]:
```
from sklearn.datasets import load_iris
```

In [57]:
```
iris = load_iris()
```

In [62]:
```
df = pd.DataFrame(iris['data'])
```

In [65]:
```
df.columns = iris['feature_names']
```

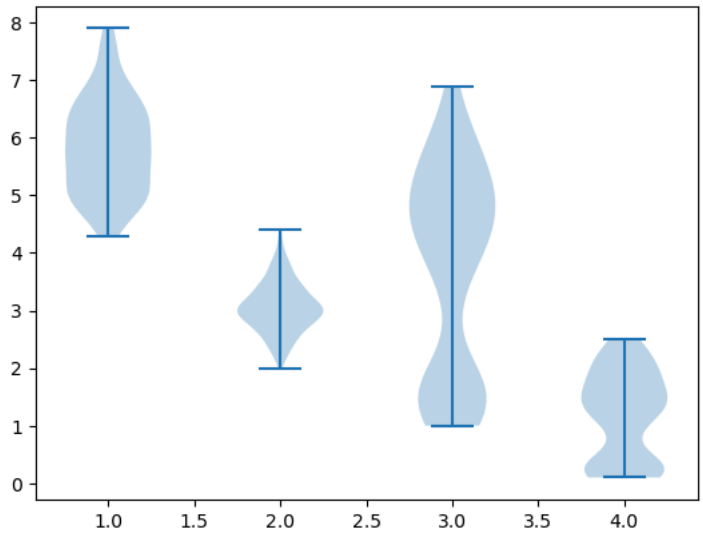
In [66]:
```
df
```

Out[66]:

	sepal length (cm)	sepal width (cm)	petal length (cm)	petal width (cm)
0	5.1	3.5	1.4	0.2
1	4.9	3.0	1.4	0.2
2	4.7	3.2	1.3	0.2
3	4.6	3.1	1.5	0.2
4	5.0	3.6	1.4	0.2
...	...	...	...	...
145	6.7	3.0	5.2	2.3
146	6.3	2.5	5.0	1.9
147	6.5	3.0	5.2	2.0
148	6.2	3.4	5.4	2.3
149	5.9	3.0	5.1	1.8

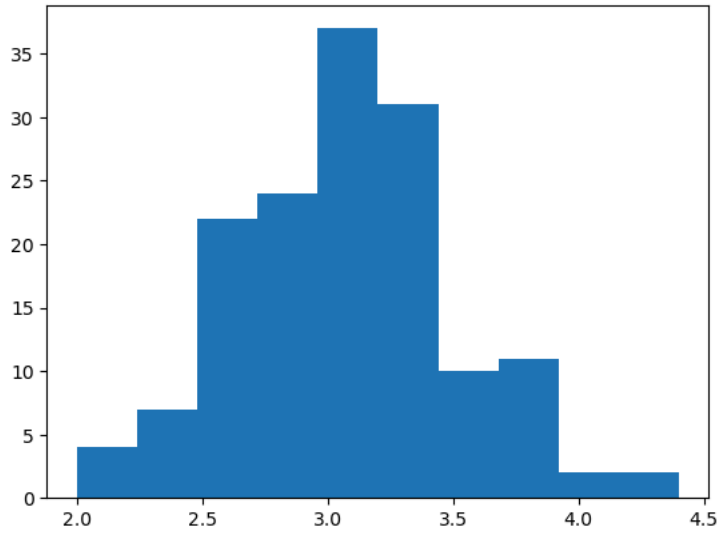
150 rows × 4 columns

In [72]:
```
plt.violinplot(df,vert=True)
plt.show()
```



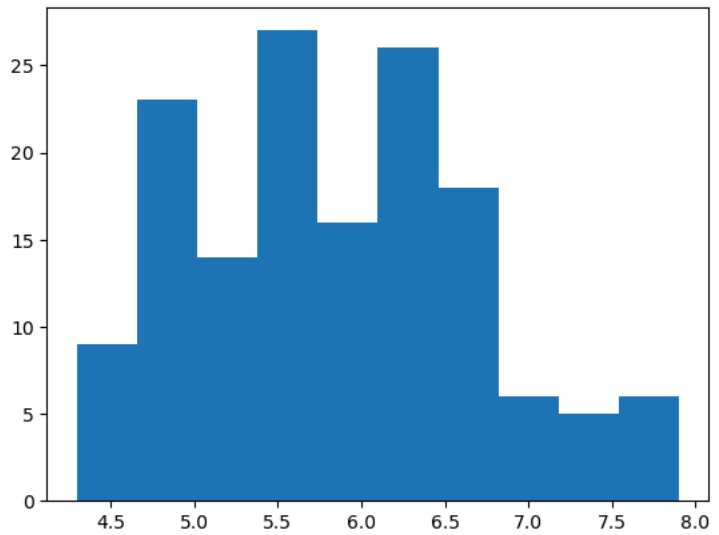
In [73]:
```
plt.hist(df['sepal width (cm)'])
```

Out[73]:
```
(array([ 4.,  7., 22., 24., 37., 31., 10., 11.,  2.,  2.]),
 array([2.  , 2.24, 2.48, 2.72, 2.96, 3.2 , 3.44, 3.68, 3.92, 4.16, 4.4 ]),
 <BarContainer object of 10 artists>)
```

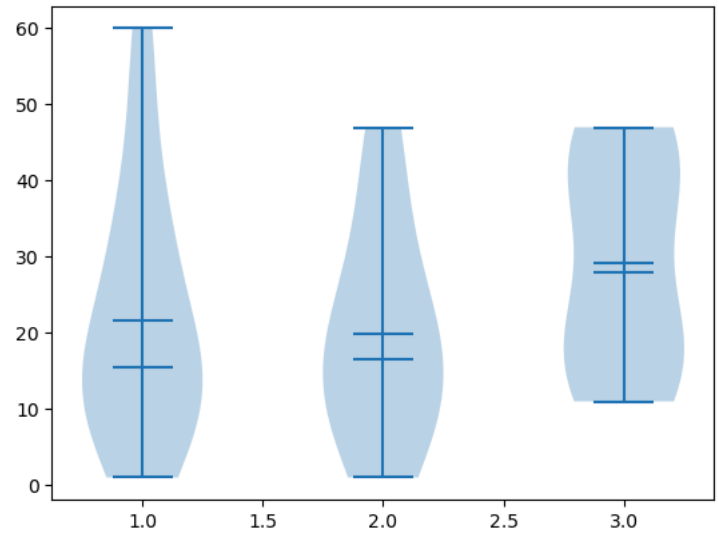


In [74]:
```
plt.hist(df['sepal length (cm)'])
```

Out[74]:
```
(array([ 9., 23., 14., 27., 16., 26., 18.,  6.,  5.,  6.]),
 array([4.3 , 4.66, 5.02, 5.38, 5.74, 6.1 , 6.46, 6.82, 7.18, 7.54, 7.9 ]),
 <BarContainer object of 10 artists>)
```



In [81]:
```
ax = plt.violinplot([y1,y2,y3],showmeans=True,showmedians=True)
plt.show()
```



In [78]:
```
ax
```

Out[78]:
```
{'bodies': [<matplotlib.collections.PolyCollection at 0x233ad6b13d0>,
  <matplotlib.collections.PolyCollection at 0x233ad6e8590>,
  <matplotlib.collections.PolyCollection at 0x233ad6eabd0>],
 'cmaxes': <matplotlib.collections.LineCollection at 0x233ad543450>,
 'cmins': <matplotlib.collections.LineCollection at 0x233ad156910>,
 'cbars': <matplotlib.collections.LineCollection at 0x233adc39310>}
```

In [88]:
```
df = pd.read_csv('https://github.com/datasciencedojo/datasets/blob/master/titanic.csv?raw=true')
```

In [89]:
```
df
```

Out[89]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S
...	...	...	...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.0000	NaN	S
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.0000	B42	S
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607	23.4500	NaN	S
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369	30.0000	C148	C
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376	7.7500	NaN	Q

891 rows × 12 columns

In [102]:
```
# pd.read_csv('https://gist.github.com/nstokoe/7d4717e96c21b8ad04ec91f361b000cb#file-weight-height-csv.csv?raw=true')
```

In [91]:
```
df = pd.read_csv(r"C:\Users\Lenovo\Downloads\7d4717e96c21b8ad04ec91f361b000cb-bf95a2e30fceb9f2ae990eac8379fc7d844a0196\7
```

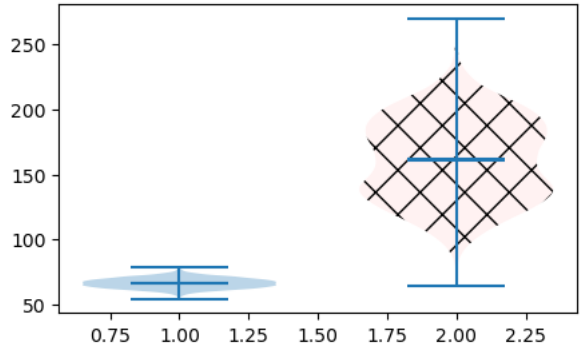
In [95]:
```
df[['Height','Weight']]
```

Out[95]:

	Height	Weight
0	73.847017	241.893563
1	68.781904	162.310473
2	74.110105	212.740856
3	71.730978	220.042470
4	69.881796	206.349801
...	...	...
9995	66.172652	136.777454
9996	67.067155	170.867906
9997	63.867992	128.475319
9998	69.034243	163.852461
9999	61.944246	113.649103

10000 rows × 2 columns

In [128]:
```
plt.figure(figsize=(5,3))
ax = plt.violinplot(df[['Height','Weight']],vert=True,showmeans=True,showmedians=True,widths=0.7)
ax['bodies'][1].set_facecolor('r')
ax['bodies'][1].set_hatch('x')
ax['bodies'][1].set_alpha(0.05)
plt.show()
```

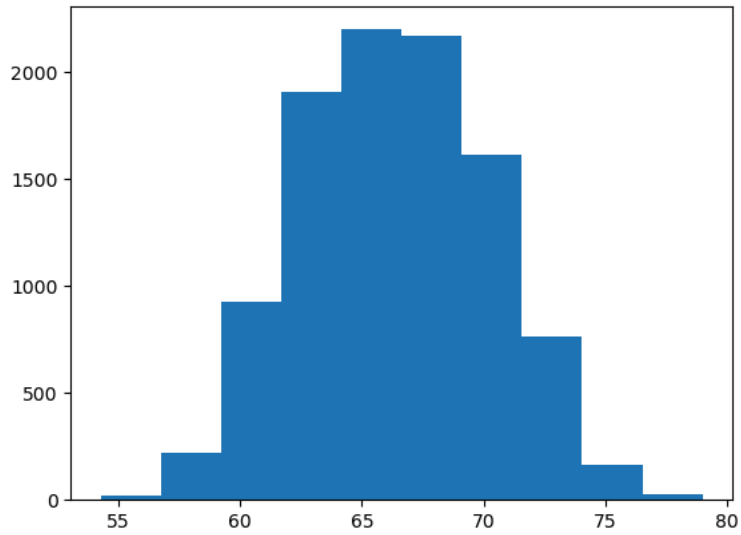


In [117]:
```

```

In [ ]:
```

```

In [103]:
```
plt.hist(df['Height'])
```

Out[103]:
```
(array([  23.,  218.,  926., 1906., 2196., 2167., 1612.,  765.,  163.,
         24.]),
 array([54.26313333, 56.73669423, 59.21025513, 61.68381603, 64.15737693,
        66.63093784, 69.10449874, 71.57805964, 74.05162054, 76.52518144,
        78.99874235]),
 <BarContainer object of 10 artists>)
```



box plot

In [130]:
```
1 df.describe()
```

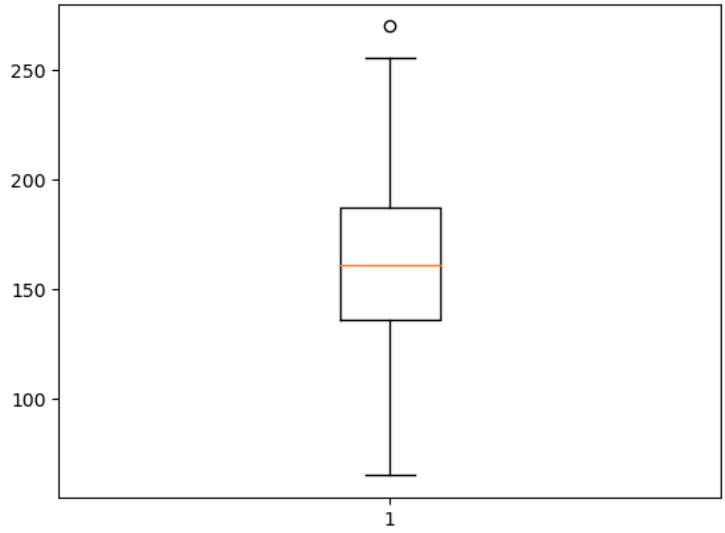
Out[130]:

	Height	Weight
count	10000.000000	10000.000000
mean	66.367560	161.440357
std	3.847528	32.108439
min	54.263133	64.700127
25%	63.505620	135.818051
50%	66.318070	161.212928
75%	69.174262	187.169525
max	78.998742	269.989699

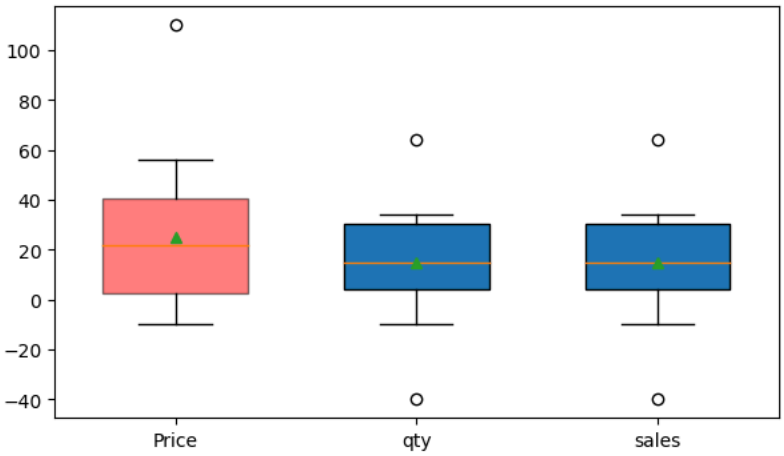
In [131]:
```
1 df['Height'].quantile(0.75)
```

Out[131]: 69.1742617268347

In [135]:
```
1 plt.boxplot(df['Weight'])
2 plt.show()
```



In [213]:
```
plt.figure(figsize=(7,4))
y1 = np.array([-10,1,23,43,2,43,1,33,2,45,6,32,13,23,20,56,4,110])
y2 = np.array([-40,-10,4,23,21,4,33,2,4,34,34,64,3,4,12,20,34,18])
y3 = np.array([12,3,43,2,24,31,2,43,4,54,23,4,34,5,32,4,3,46])

# print(len(y1))
# print(len(y2))
# print(len(y3))


ax = plt.boxplot([y1,y2,y2],whis=True,widths=0.6,patch_artist=True,showmeans=True,
            labels=['Price','qty','sales'])

ax['boxes'][0].set_facecolor('r')
ax['boxes'][0].set_alpha(0.5)



# plt.legend()
plt.show()
```



In [199]:
```
ax['fliers'][0].set_fillstyle('full')
```

wordcloud

In [225]:
```
import wordcloud as w
```

In [232]:
```
# pip install wordcloud
data = '''By default, each line is assigned a different style specified by a 'style cycle'. The fmt and line property par
```

In [235]:
```
data = data.lower()
# print(data)


word_img = w.WordCloud().generate(data)
```

In [236]:
```
plt.imshow(word_img)
```

Out[236]: <matplotlib.image.AxesImage at 0x233b79f6e10>

In [237]:
```
r1 = '''I have been using this phone from past 8 days and here is my review.
The display is top notch very bright and 90hz amoled feels good. Watching Netflix also very good. Don't worry about the
Performance is very good at this price range snapdragon 695 is a very capable processor but not for heavy gamers.
Battery and fast charging are out standing even it has a 4500 mah battery ot lasts for 1 to 2 and half day and charges a
Camera is pretty decent at this price point , i have installed a google camera and the pics are amazing check the selfi
This has in display fingerprint sensor which is so accurate all times .
Software also good i turned off all the ads and recommendations. Now its perfect
Over all this is a very good phone at this price point i bought it for 14750 rupees and I'm very satisfied. If you are p
```

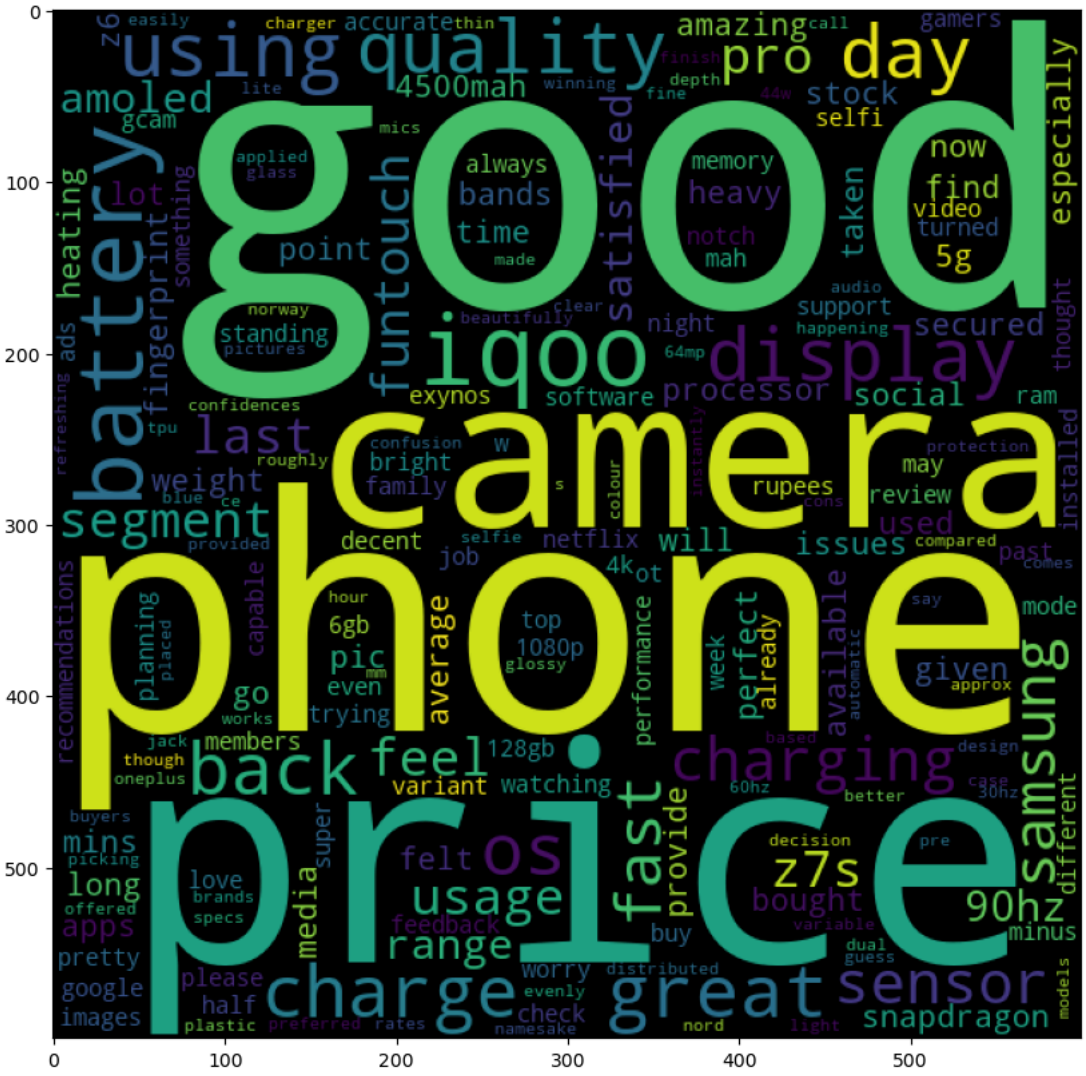
In [238]:
```
r2 = '''I bought 6GB RAM & 128GB memory variant and this is my feedback after using for a week.

I always love samsung phones but their cameras & exynos processor is this segment are their only minus. Thought of tryin
As Family members are already using iQOO Z6 Pro, preferred iQOO Z7s after a long confusion of picking Oneplus Nord CE 3

Pros:
1. Light weight and evenly distributed.
2. Comes with a pre-applied (very thin) glass protection and a clear TPU case.
3. With 44W charger provided, 0-100% charge is happening in approx. 1 hour. 20-100% by roughly 50 mins.
4. The design, especially the back. Though it is plastic, iQOO has given a very good glossy finish and especially how be
5. Pictures taken in back camera (64MP+namesake depth sensor) are very good while selfie camera quality is above average
6. Display AMOLED with variable refreshing rates (30Hz, 60Hz, 90Hz or automatic based on usage) and in display fingerpri
7. SPECS offered and their price is very good compared to other brands.
8. Call quality is amazing with dual mics.
9. 3.5 mm audio jack available while it is not available in Z6 pro and some other models.

Cons:
1. Only 6 5G bands (but should be fine with the bands operated by Jio & Airtel).
2. Replacing Dimensity 920 with snapdragon 695 in the name of Z7s for same price is a scam 😡
3. To reduce weight, they have given only 4500mAH battery. Moderate usage lasts 1.5 days, heavy usage (social medias) ca
4. Slightly felt heating issues when used social media apps for too long.
5. Single speaker at the bottom & quality is average.
6. Main drawback is their OS - Funtouch. Lot of bloatwares & iQOO apps. Very annoying. Missed samsung a lot in this part

If you are okay to live with Funtouch OS & a 4500mAH battery (using 5G & 4G networks drains battery quicker), this phone
```

In [239]:
```
r3 = '''Great product at a reasonable price. Both the Cameras is Great, Battery back up is Good. Charging is fast, withi
Overall 5/5 at this price.'''
```

In [242]:
```
r1 = r1.strip().lower()
r2 = r2.strip().lower()
r3 = r3.strip().lower()

r = r1+' '+r2+' '+r3
data = r.replace('\n',' ')
```

In [250]:
```
img = w.WordCloud(width=600,height=600).generate(data)
```

In [252]:
```
plt.figure(figsize=(10,10))
plt.imshow(img)
plt.show()
```



In [257]:
```
# sub plot
df
```

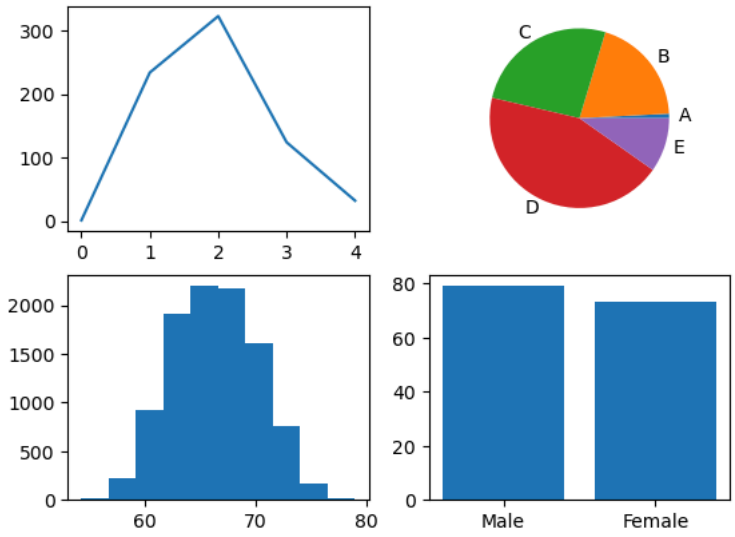
Out[257]:

	Gender	Height	Weight
0	Male	73.847017	241.893563
1	Male	68.781904	162.310473
2	Male	74.110105	212.740856
3	Male	71.730978	220.042470
4	Male	69.881796	206.349801
...	...	...	...
9995	Female	66.172652	136.777454
9996	Female	67.067155	170.867906
9997	Female	63.867992	128.475319
9998	Female	69.034243	163.852461
9999	Female	61.944246	113.649103

In [ ]:
```

```

In [263]:

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


df = pd.read_csv(r"C:\Users\Lenovo\Downloads\7d4717e96c21b8ad04ec91f361b000cb-bf95a2e30fceb9f2ae990eac8379fc7d844a0196\7

ax1 = plt.subplot(2,2,1)
ax1.plot([1,234,323,124,32])


ax2 = plt.subplot(2,2,2)
ax2.pie([1,24,32,54,12],labels=list('ABCDE'))


ax3 = plt.subplot(2,2,3)
ax3.hist(df['Height'])


ax4 = plt.subplot(2,2,4)
ax4.bar(x=df['Gender'],height=df['Height'])

plt.show()
```



In [ ]:

```

```