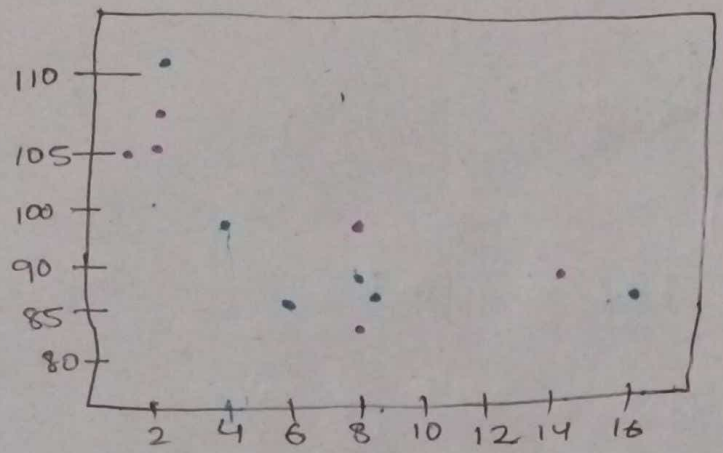
Compare Plots

```
x = np.array([5,7,8,7,2,17])
y = np.array([99,86,87,88,111,86])
plt.scatter(x,y)
```

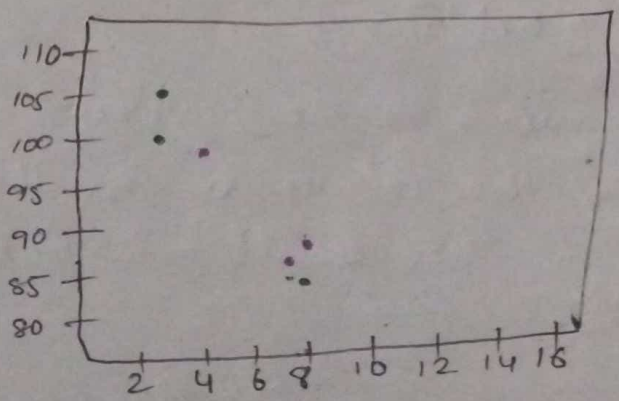
#day two, the age and ~~speed~~ of 15 cars:

```
x = np.array([2,2,8,1,15,8])
y = np.array([100,105,84,105,90,99])
plt.scatter(x,y)
plt.show()
```



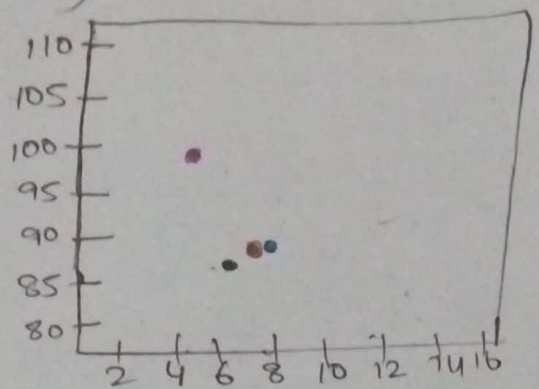
Colors

```
x = np.array([5,7,8])
y = np.array([99,86,87])
plt.scatter(x,y,color='hotpink')
x = np.array([2,2,8])
y = np.array([100,105,84])
plt.scatter(x,y,color='#88c999')
plt.show()
```



Color Each Dot

```
x = np.array([5, 7, 8, 7])
y = np.array([77, 86, 87, 88])
colors = np.array(['red', 'green', 'blue', 'orange'])
plt.scatter(x, y, c = colors)
plt.show()
```

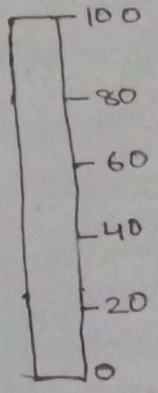


ColorMap (cmap)

The Matplotlib module has a number of available colormaps.

A colormap is like a list of colors, where each color has a value that ranges from 0 to 100.

Here is the example of a colormap.

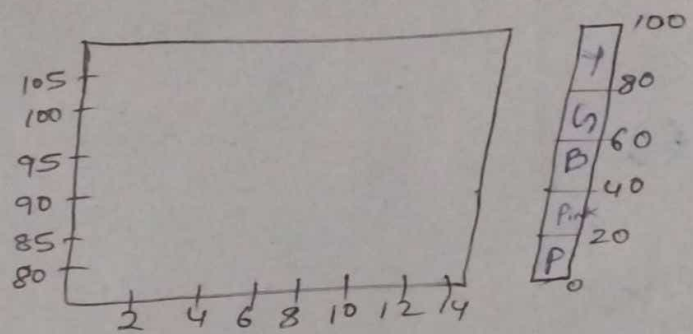


How to use the ColorMap

You can specify the colormap with the keyword argument cmap with the value of the colormap, in this case 'viridis' which is one of the built-in colormaps available in Matplotlib.

You can include the colormap in the drawing by including the plt.colorbar() statement.

```
import matplotlib.pyplot as plt
import numpy as np
x = np.array([5, 7, 8])
y = np.array([99, 86, 87])
colors = np.array([0, 10, 20])
plt.scatter(x, y, c=colors, cmap='viridis')
plt.colorbar()
plt.show()
```



Size

```
x = np.array([5, 7, 8])
y = np.array([99, 86, 87])
sizes = np.array([20, 50, 70])
plt.scatter(x, y, s=sizes)
plt.show()
```