converting the image into th array

In [1]:
```
import numpy as np
import matplotlib.pyplot as plt
from PIL import Image
```

In [3]:
```
dog=Image.open(r'D:\fav pics\IMG_20241112_061645.jpg')
```

In [5]:
```
dog
```

Out[5]:

In [7]:
```
arr_dog=np.array(dog)
arr_dog
```

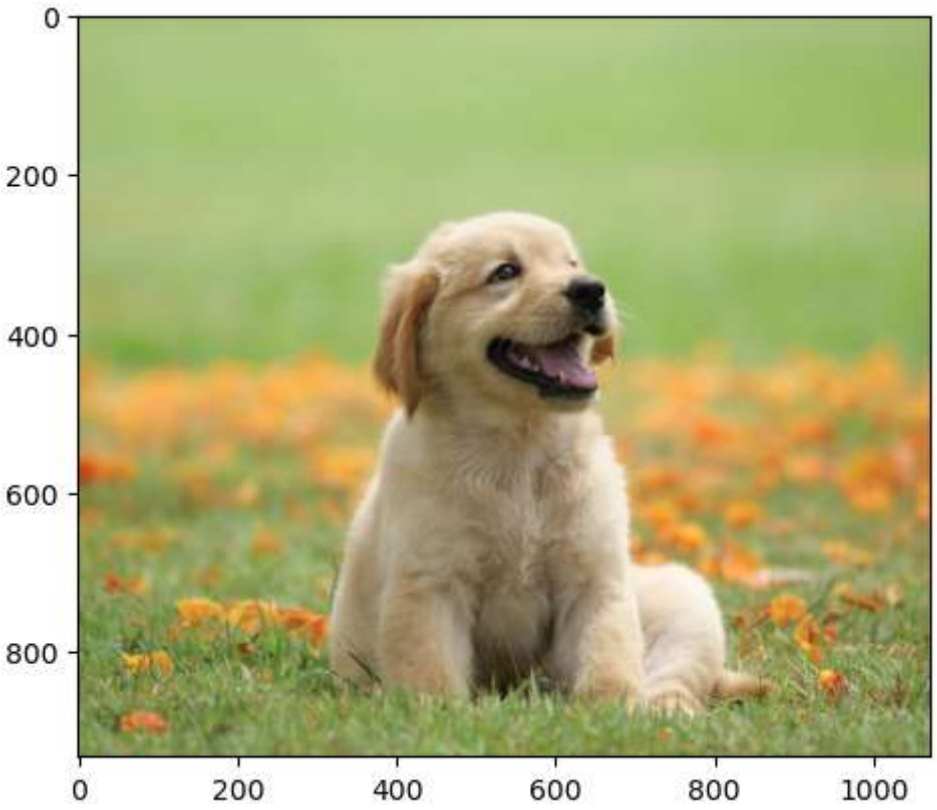
Out[7]:
```
array([[[166, 188, 123],
        [166, 188, 123],
        [166, 188, 123],
        ...,
        [163, 184, 117],
        [163, 184, 117],
        [163, 184, 119]],

       [[166, 188, 123],
        [166, 188, 123],
        [166, 188, 123],
        ...,
        [163, 184, 117],
        [163, 184, 117],
        [163, 184, 117]],

       [[166, 188, 123],
        [166, 188, 123],
        [166, 188, 123],
        ...,
        [163, 184, 117],
        [163, 184, 117],
        [163, 184, 117]],

       ...,

       [[128, 149,  92],
        [127, 146,  91],
        [126, 143,  89],
        ...,
        [137, 151, 100],
        [132, 146,  95],
        [130, 142,  92]],

       [[131, 150,  95],
        [128, 147,  92],
        [126, 143,  91],
        ...,
        [135, 149,  98],
        [129, 143,  92],
        [126, 138,  90]],

       [[133, 152,  97],
        [129, 147,  95],
        [125, 143,  91],
        ...,
        [129, 145,  96],
        [126, 140,  91],
        [125, 137,  89]]], dtype=uint8)
```

In [9]:
```
type(arr_dog)
```

Out[9]:
```
numpy.ndarray
```

In [11]:
```
plt.imshow(dog)
```

Out[11]: <matplotlib.image.AxesImage at 0x1af8902f410>



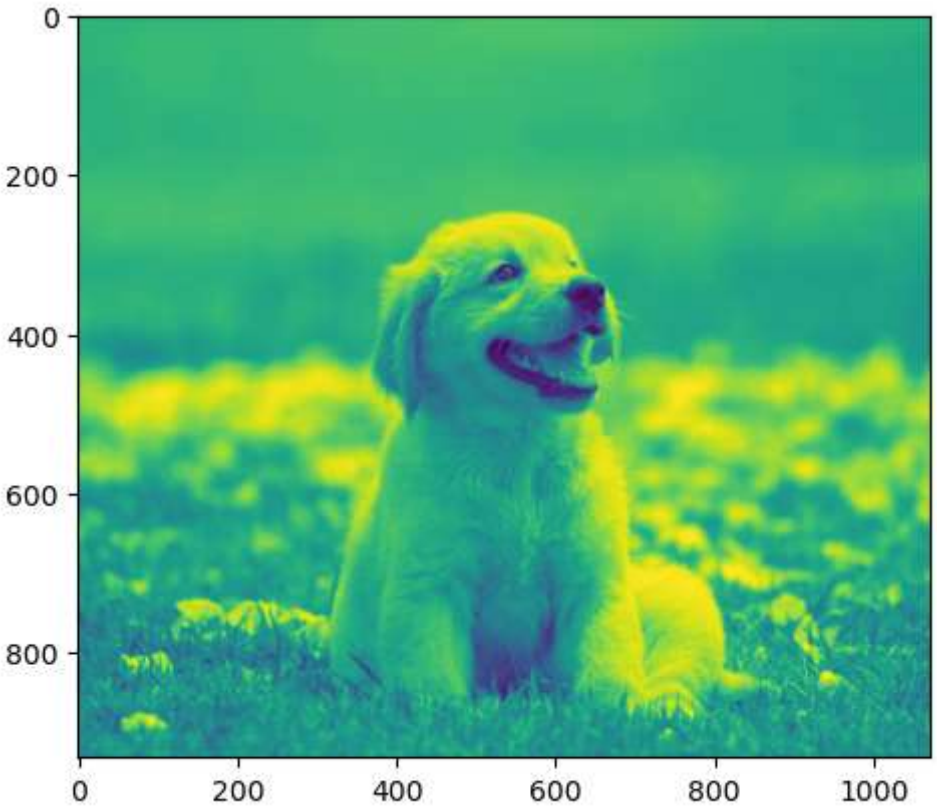
In [13]:
```
arr_dog.shape # it givezs us length,breath,height
```

Out[13]: (932, 1072, 3)

- here first ':' refers to "rows" and second ':' refers to "coloums".
- by default 0--->red
- by default 1---->green
- by default 2---->blue

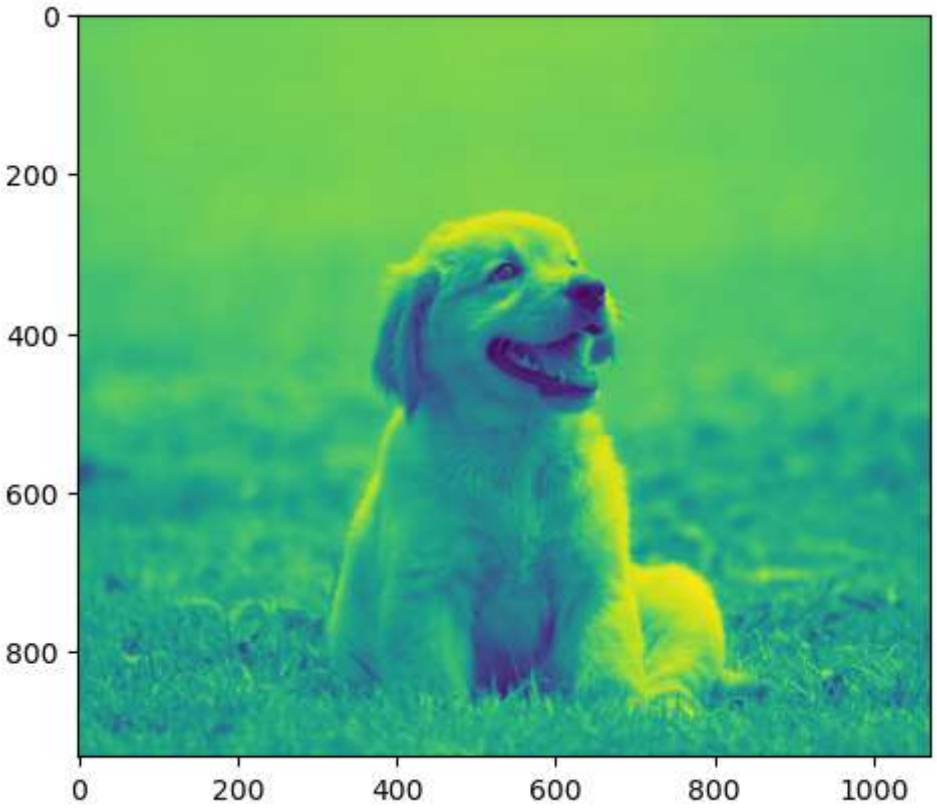
In [16]:
```
plt.imshow(arr_dog[:,:,0])
```

Out[16]: <matplotlib.image.AxesImage at 0x1af890fe840>



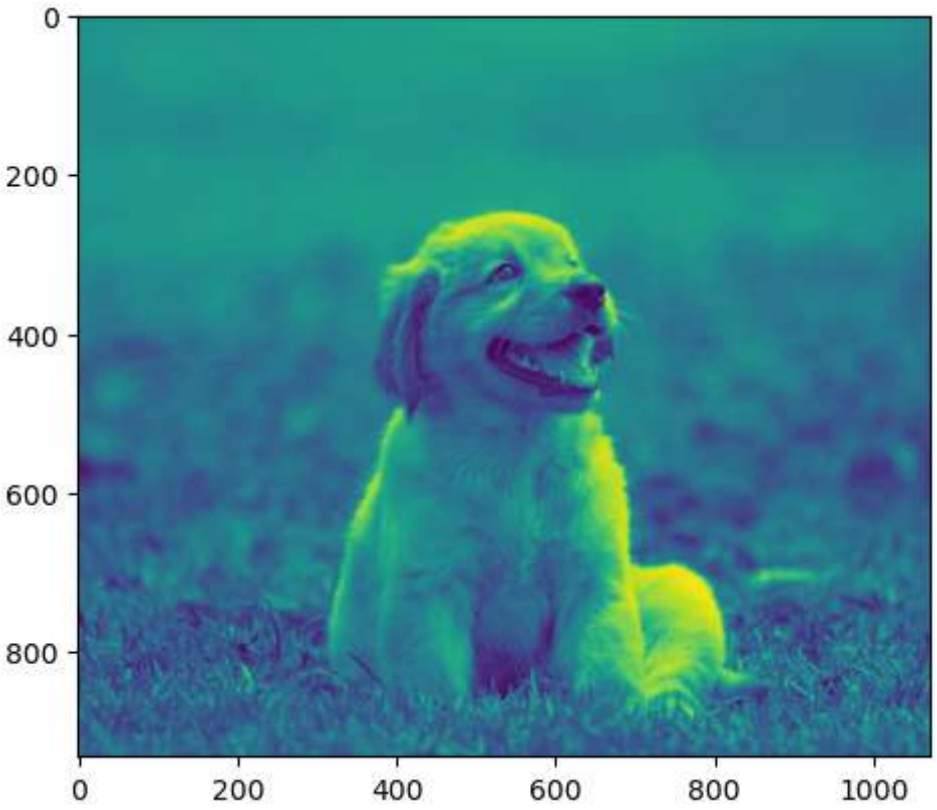
In [18]:
```
plt.imshow(arr_dog[:,:,1])
```

Out[18]: <matplotlib.image.AxesImage at 0x1af891a8e00>



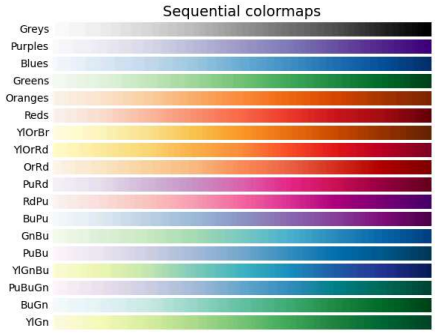
In [20]:
```
plt.imshow(arr_dog[:,:,2])
```

Out[20]: <matplotlib.image.AxesImage at 0x1af89175250>



colour maping

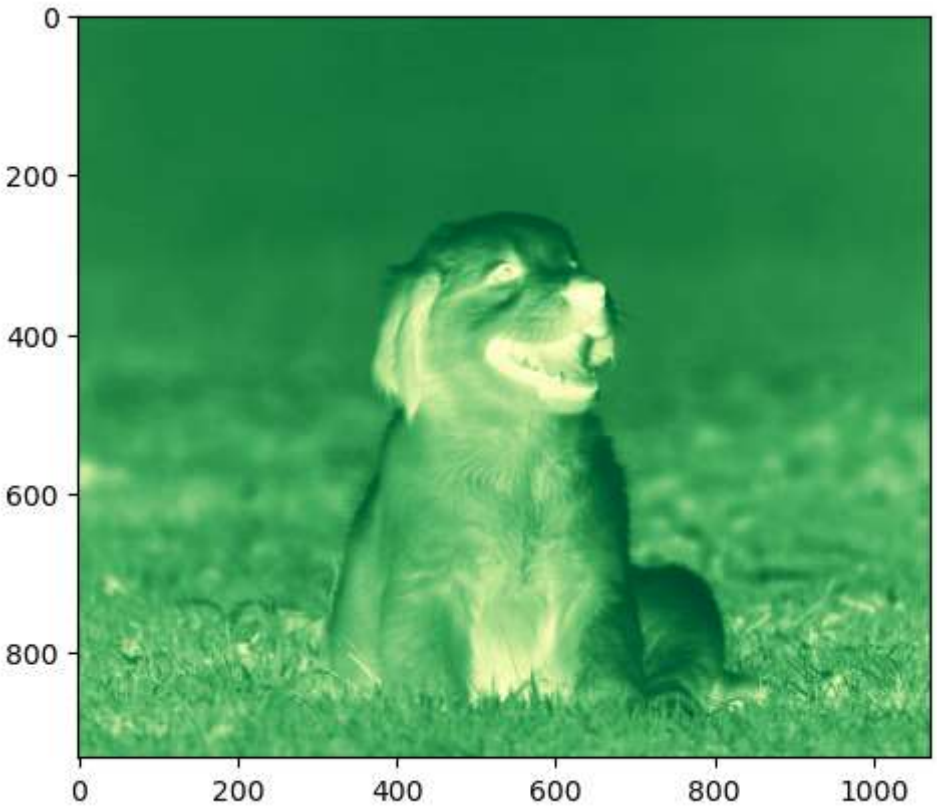
- here we use "cmap()"



import image( )

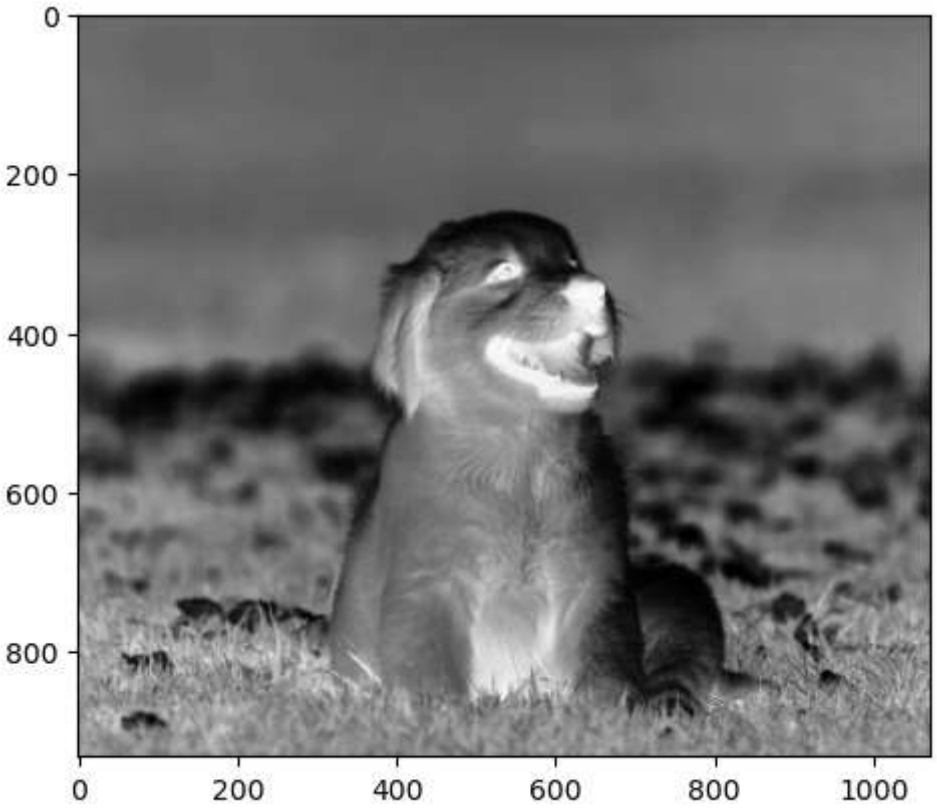
In [36]:
```
plt.imshow(arr_dog[:,:,1], cmap='YlGn')
```

Out[36]: <matplotlib.image.AxesImage at 0x1af90095790>



In [50]:
```
plt.imshow(arr_dog[:,:,0], cmap='Greys')
```

Out[50]:
```
<matplotlib.image.AxesImage at 0x1af9156ea80>
```



In [ ]: