In [28]:

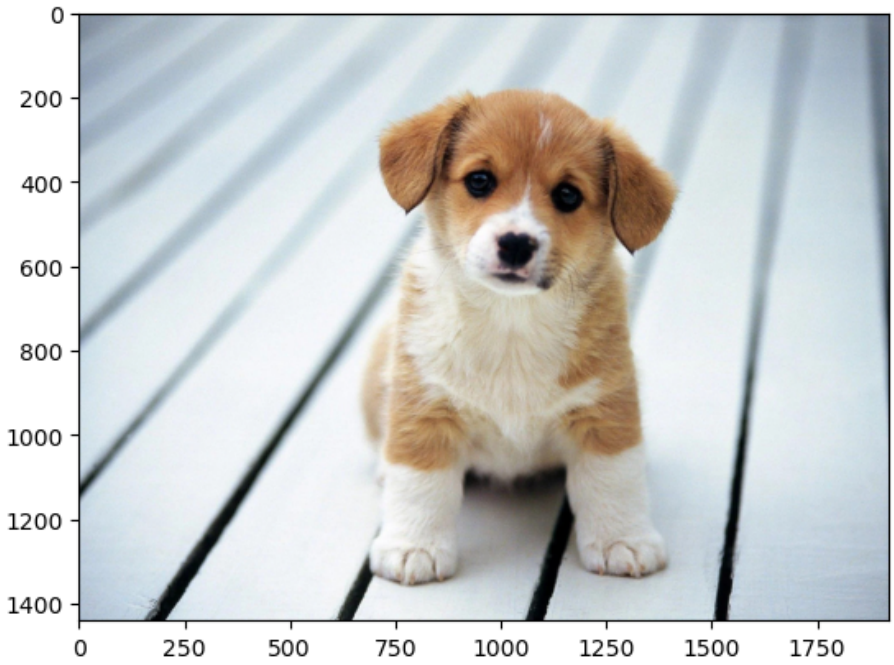
```
import skimage.io as io #for input manipulations on the image
import matplotlib.pyplot as plt
import numpy as np
#you can download any color image from google.com to use for this lab
```

In [29]:

```
#Read the image
img_path = "D:\\Softwares\\MS Office 2013\\admin\\Anuj\\ComputerVision-main\\Dog.jpg"
img = io.imread(img_path)
```

In [30]:

```
plt.imshow(img)
plt.show()
```



In [31]:

```
img.shape
```

Out[31]:

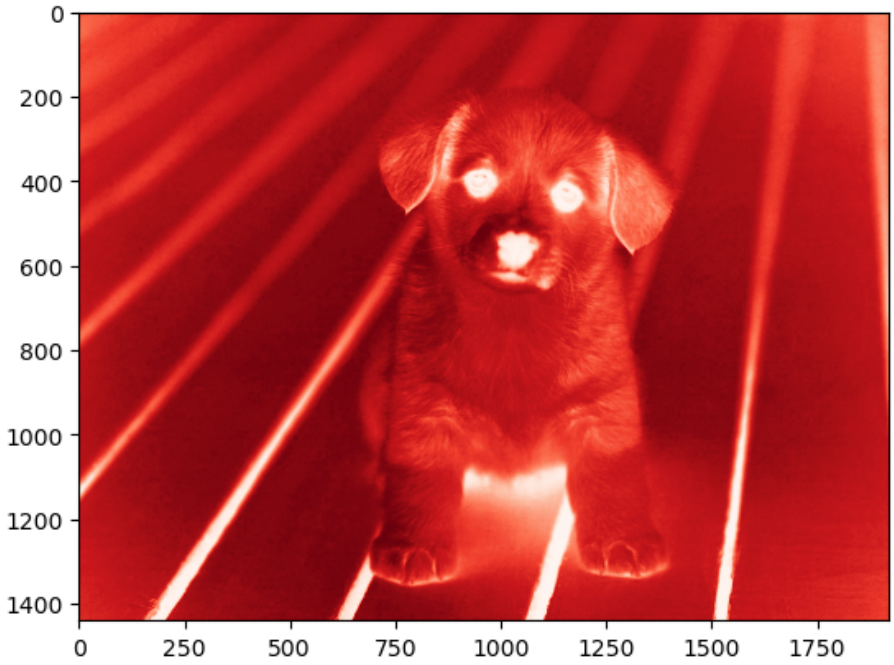
```
(1440, 1920, 3)
```

In [32]:

```
# Split
red = img[:, :, 0] #we take all height and with of our image and for the channel, we take the first one here
green = img[:, :, 1]  #we take all height and with of our image and for the channel, we take the second one here
blue = img[:, :, 2]    #we take all height and with of our image and for the channel, we take the third one here
```

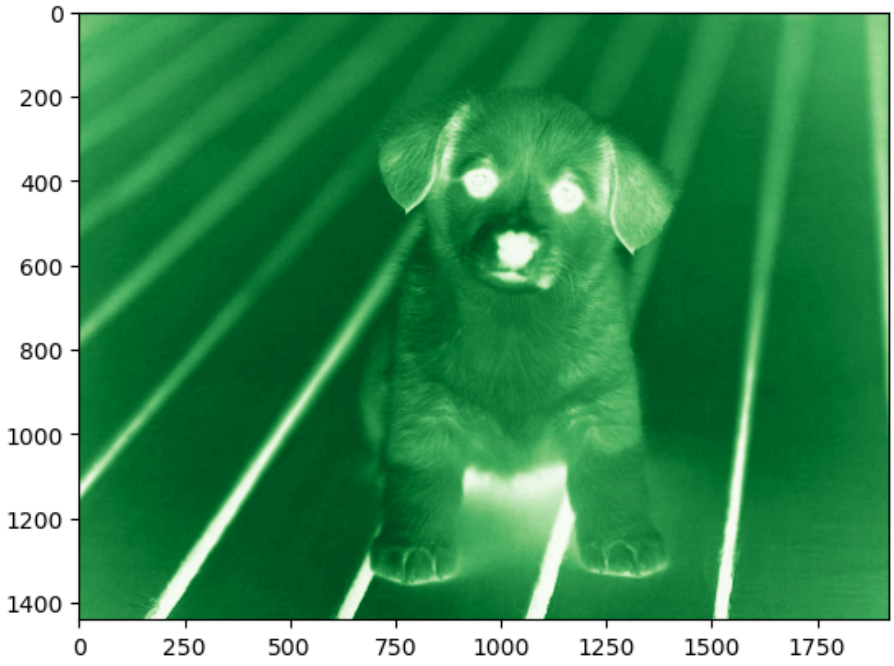
In [33]:

```
plt.imshow(red,cmap='Reds')
plt.show()
```



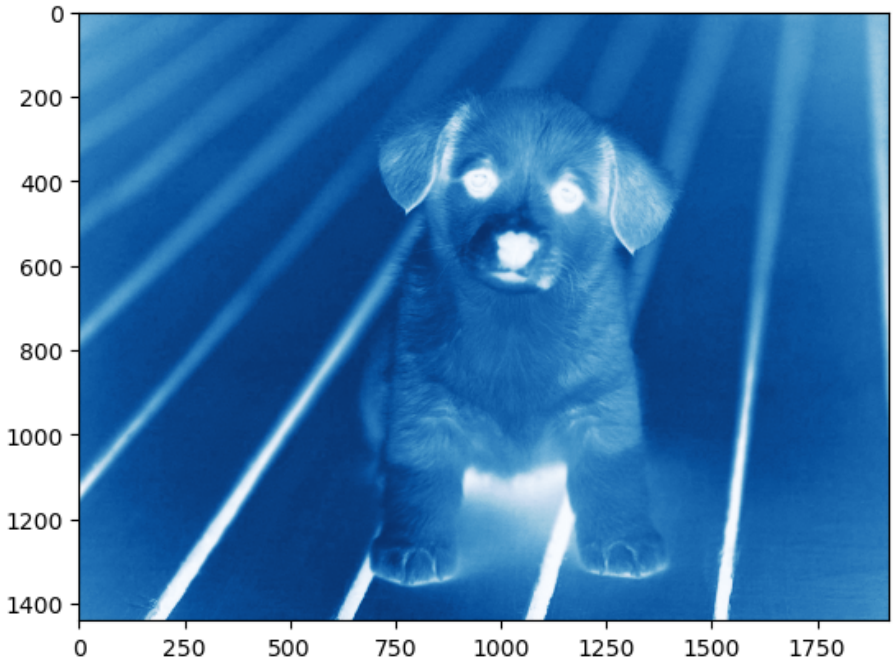
In [34]:

```
plt.imshow(red,cmap='Greens')
plt.show()
```



In [35]:

```
plt.imshow(red,cmap='Blues')
plt.show()
```



In [36]:

```
!pip install Pillow
```

```
Requirement already satisfied: Pillow in c:\users\baps\anaconda3\lib\site-packages (9.4.0)
```

In [37]:

```
from PIL import Image
img2 = Image.open("D:\\Softwares\\MS Office 2013\\admin\\Anuj\\ComputerVision-main\\Dog.jpg")
img2 = Image.open(img_path).convert('L')
img2.save('dog1l.jpeg')
```

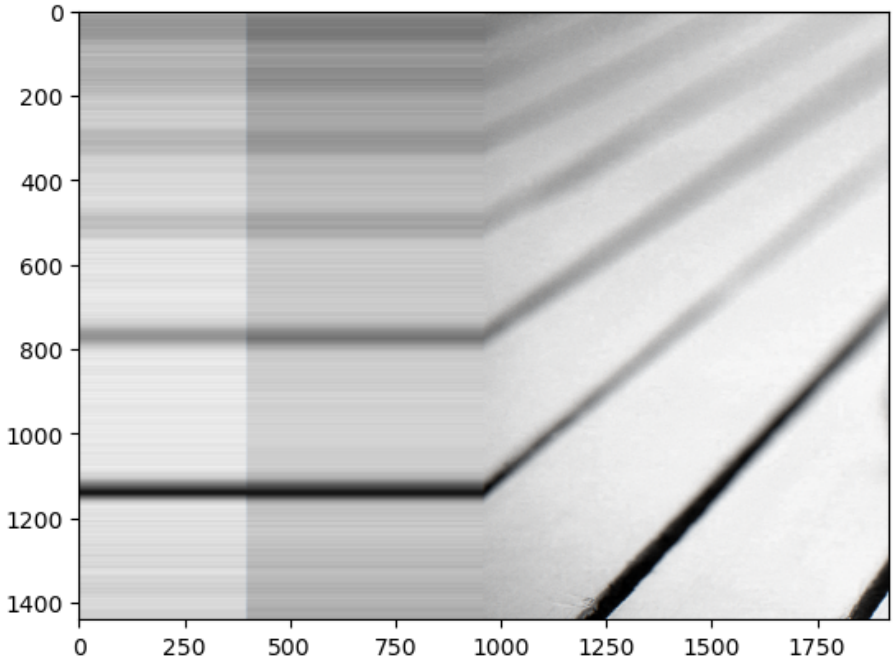
In [41]:

```
img2_sk = io.imread('dog11.jpeg')
plt.imshow(img2_sk, cmap='Greys_r')
plt.show()
```

Affine Tranformation

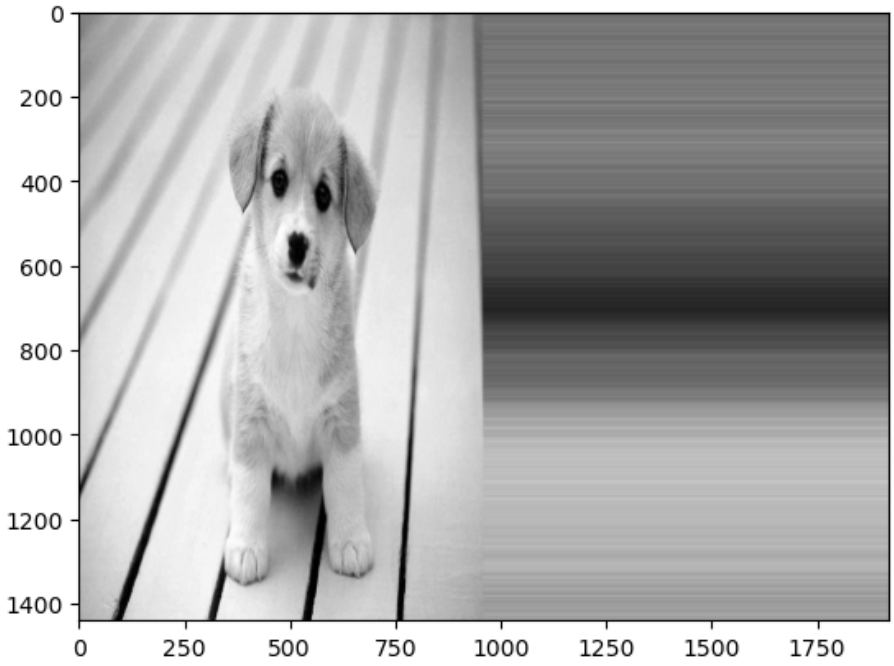
In [45]:

```
import tensorflow as tf
transformation=tf.keras.preprocessing.image.apply_affine_transform(img, theta=45)

plt.imshow(transformation)
plt.show()
```



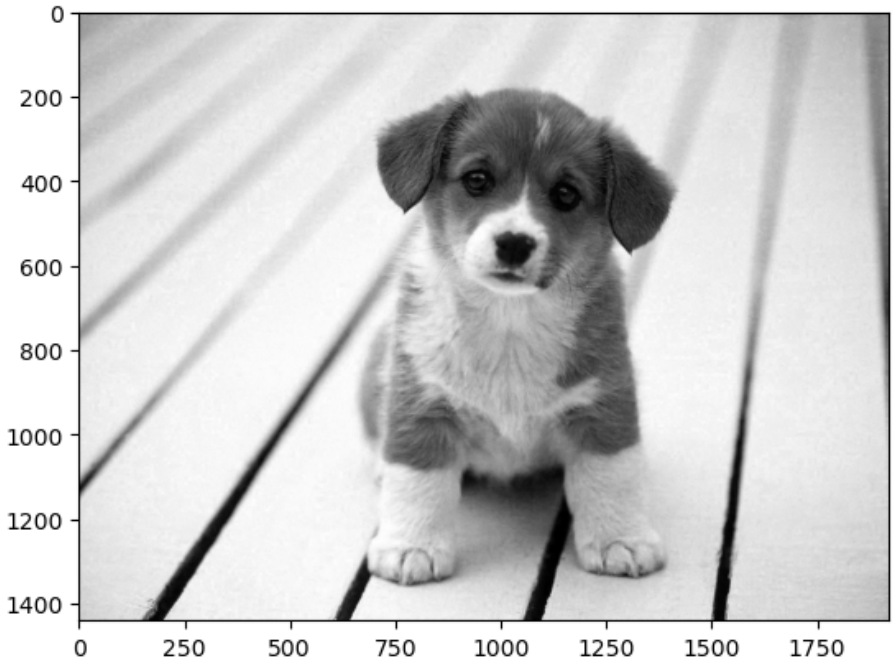
In [46]:

```
transformation=tf.keras.preprocessing.image.apply_affine_transform(img, zx=2,zy=2)

plt.imshow(transformation)
plt.show()
```



In [47]:

```
 #  tx=Width shift.
  #  ty=Heigh shift.
transformation=tf.keras.preprocessing.image.apply_affine_transform(img, tx=250,ty=5)

plt.imshow(transformation)
plt.show()
```



In [ ]:

```

```