In [1]:
```
import numpy as np
```

In [3]:
```
ones_arr=np.ones((3,3))
```

In [5]:
```
ones_arr
```

Out[5]:
```
array([[1., 1., 1.],
       [1., 1., 1.],
       [1., 1., 1.]])
```

In [7]:
```
ones_arr=np.ones((5,5),dtype=int)
```

In [9]:
```
ones_arr
```

Out[9]:
```
array([[1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1]])
```

In [13]:
```
zeros_arr=np.zeros((3,3),dtype=int)
```

In [15]:
```
zeros_arr
```

Out[15]:
```
array([[0, 0, 0],
       [0, 0, 0],
       [0, 0, 0]])
```

In [17]:
```
ones_arr
```

Out[17]:
```
array([[1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1],
       [1, 1, 1, 1, 1]])
```

In [19]:
```
ones_arr*255
```

Out[19]:
```
array([[255, 255, 255, 255, 255],
       [255, 255, 255, 255, 255],
       [255, 255, 255, 255, 255],
       [255, 255, 255, 255, 255],
       [255, 255, 255, 255, 255]])
```

In [21]:
```
import matplotlib.pyplot as plt
```

In [23]:
```
%matplotlib inline
```

In [25]:
```
from PIL import Image
```

In [27]:
```
chick_img=Image.open(r"C:\Users\user\Desktop\chick.jpg")
```

In [29]:
```
chick_img
```

Out[29]:

In [31]:
```
type(chick_img)
```

Out[31]:
```
PIL.JpegImagePlugin.JpegImageFile
```

In [33]:
```
chick_arr=np.asarray(chick_img) # converting image to array
chick_arr
```

Out[33]:
```
array([[[ 27,  20,  27],
        [ 27,  20,  27],
        [ 28,  21,  28],
        ...,
        [ 99, 123,  25],
        [ 98, 122,  28],
        [ 98, 122,  28]],

       [[ 27,  20,  27],
        [ 27,  20,  27],
        [ 28,  21,  28],
        ...,
        [100, 124,  26],
        [ 99, 123,  27],
        [ 99, 123,  27]],

       [[ 28,  21,  28],
        [ 28,  21,  28],
        [ 28,  21,  28],
        ...,
        [101, 125,  27],
        [100, 124,  28],
        [100, 124,  28]],

       ...,

       [[133, 118,  99],
        [133, 118,  99],
        [134, 119, 100],
        ...,
        [187, 164, 133],
        [186, 165, 134],
        [186, 165, 134]],

       [[140, 123, 103],
        [140, 123, 103],
        [141, 124, 104],
        ...,
        [186, 163, 132],
        [184, 163, 132],
        [184, 163, 132]],

       [[146, 128, 106],
        [146, 128, 106],
        [147, 129, 107],
        ...,
        [185, 162, 131],
        [183, 162, 131],
        [183, 162, 131]]], dtype=uint8)
```

In [35]:
```
type(chick_arr)
```

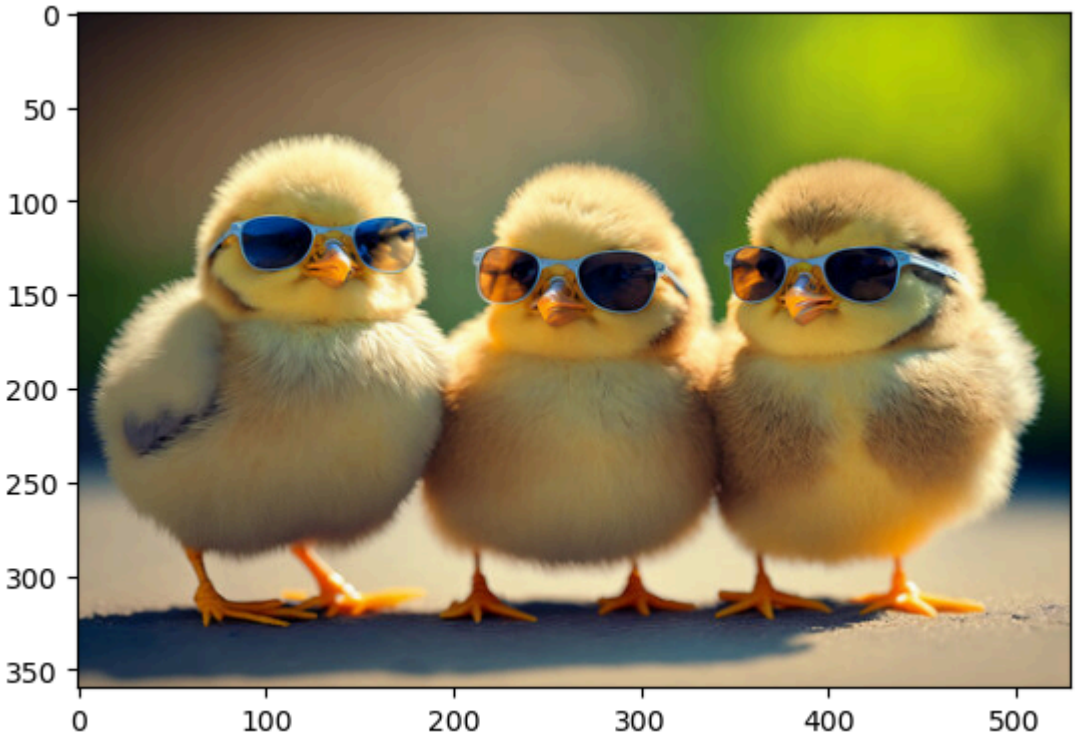
Out[35]:
```
numpy.ndarray
```

In [37]:
```
chick_arr.shape
```

Out[37]:
```
(360, 530, 3)
```

In [39]:
```
plt.imshow(chick_arr)
```

Out[39]: <matplotlib.image.AxesImage at 0x27b5c0d6390>



In [41]:
```
chick_red=chick_arr.copy()
```

In [43]:
```
chick_red
```

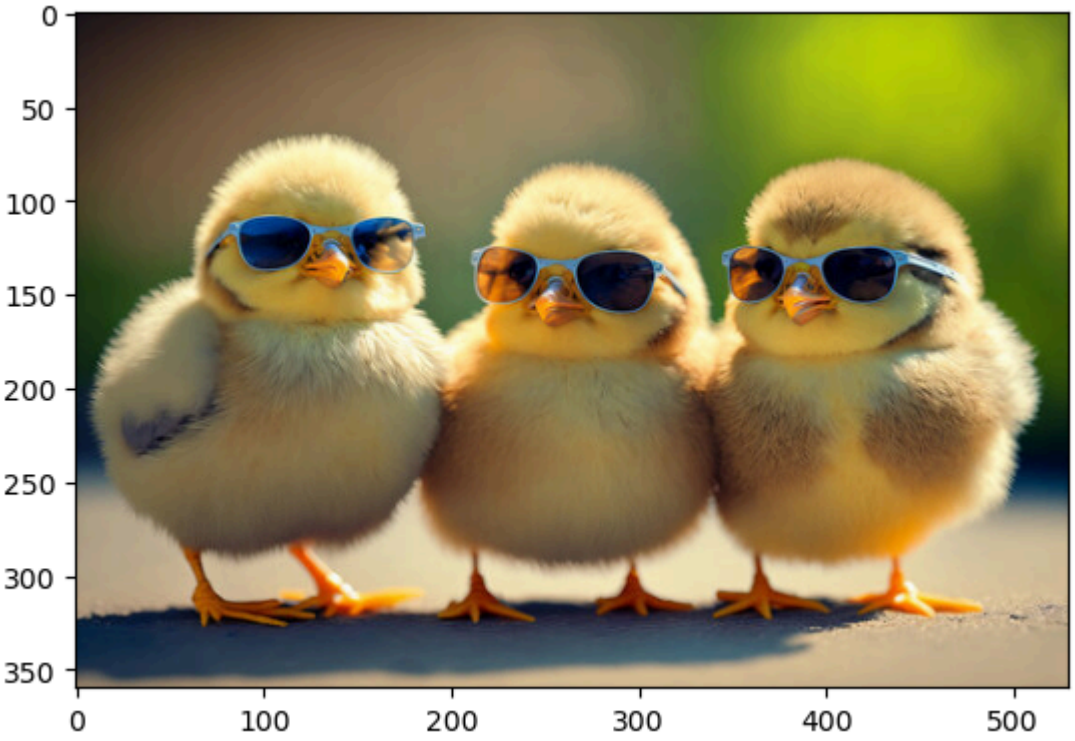
Out[43]:
```
array([[[ 27,  20,  27],
        [ 27,  20,  27],
        [ 28,  21,  28],
        ...,
        [ 99, 123,  25],
        [ 98, 122,  28],
        [ 98, 122,  28]],

       [[ 27,  20,  27],
        [ 27,  20,  27],
        [ 28,  21,  28],
        ...,
        [100, 124,  26],
        [ 99, 123,  27],
        [ 99, 123,  27]],

       [[ 28,  21,  28],
        [ 28,  21,  28],
        [ 28,  21,  28],
        ...,
        [101, 125,  27],
        [100, 124,  28],
        [100, 124,  28]],

       ...,

       [[133, 118,  99],
        [133, 118,  99],
        [134, 119, 100],
        ...,
        [187, 164, 133],
        [186, 165, 134],
        [186, 165, 134]],

       [[140, 123, 103],
        [140, 123, 103],
        [141, 124, 104],
        ...,
        [186, 163, 132],
        [184, 163, 132],
        [184, 163, 132]],

       [[146, 128, 106],
        [146, 128, 106],
        [147, 129, 107],
        ...,
        [185, 162, 131],
        [183, 162, 131],
        [183, 162, 131]]], dtype=uint8)
```

In [45]:
```
chick_arr == chick_red
```

Out[45]:
```
array([[[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       ...,

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]],

       [[ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True],
        ...,
        [ True,  True,  True],
        [ True,  True,  True],
        [ True,  True,  True]]])
```

In [47]:
```
plt.imshow(chick_red)
```

Out[47]:
```
<matplotlib.image.AxesImage at 0x27b5c197560>
```

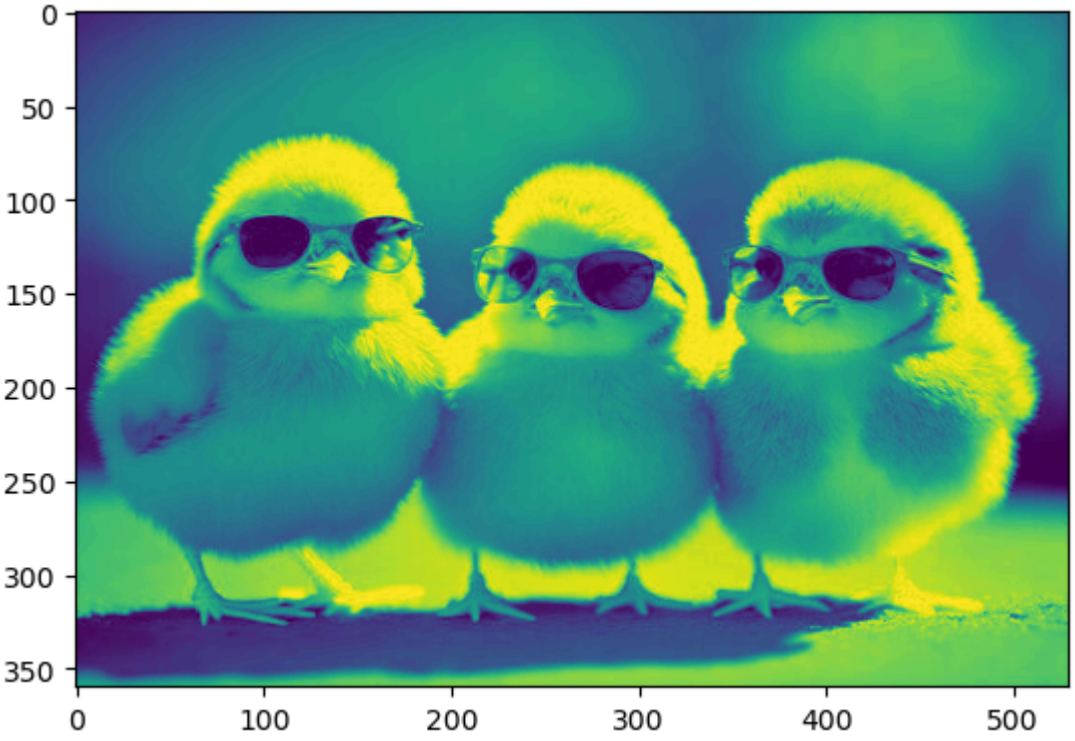


In [49]:
```
chick_red.shape
```

Out[49]:
```
(360, 530, 3)
```

In [151…
```
# R G B

plt.imshow(chick_red[:,:,0])
```

Out[151…
```
<matplotlib.image.AxesImage at 0x27b5eff0050>
```

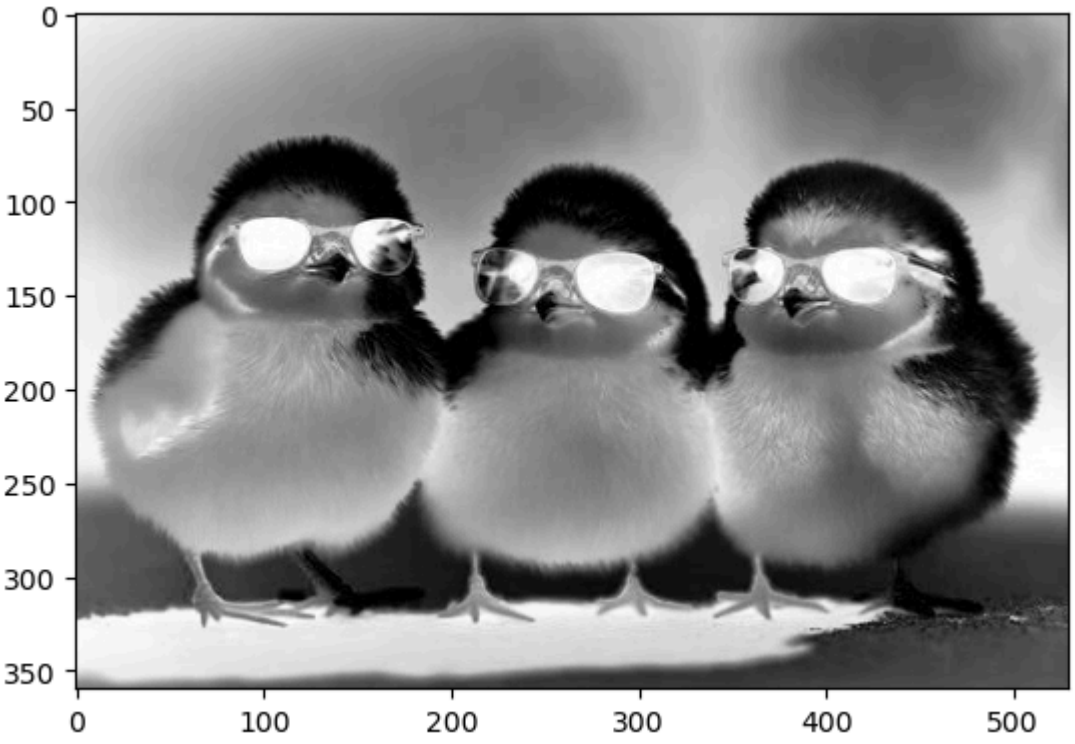


In [61]:
```
chick_red[:,:,0]
```

Out[61]:
```
array([[ 27,  27,  28, ...,  99,  98,  98],
       [ 27,  27,  28, ..., 100,  99,  99],
       [ 28,  28,  28, ..., 101, 100, 100],
       ...,
       [133, 133, 134, ..., 187, 186, 186],
       [140, 140, 141, ..., 186, 184, 184],
       [146, 146, 147, ..., 185, 183, 183]], dtype=uint8)
```

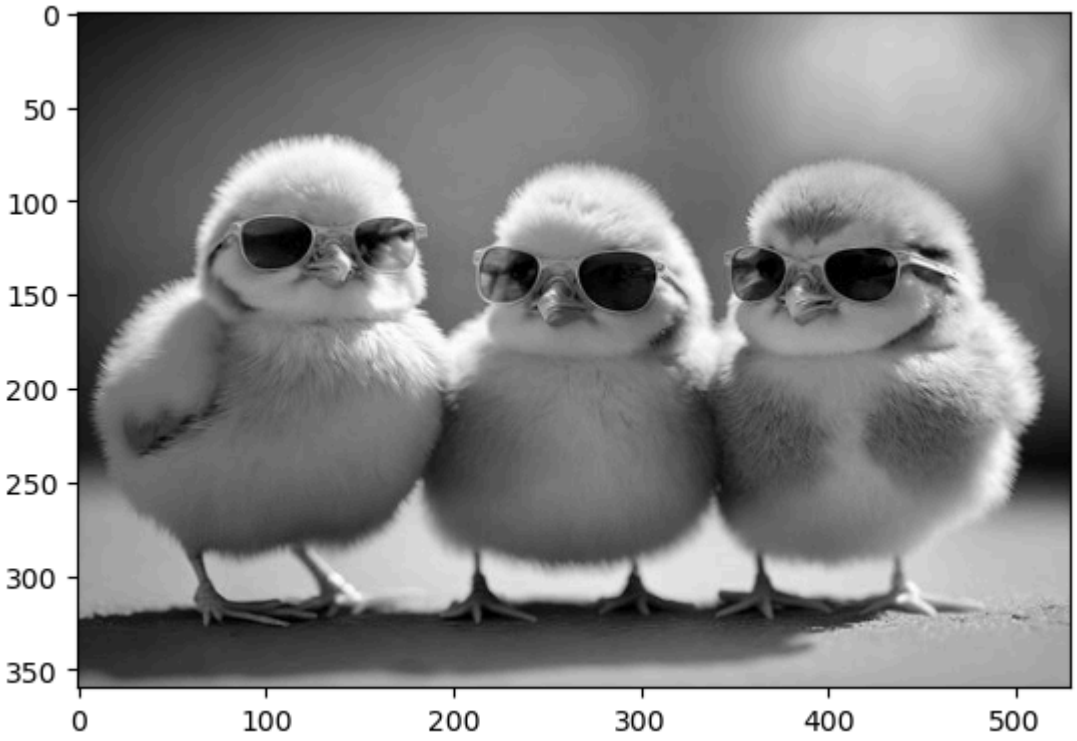
In [65]:
```
plt.imshow(chick_red[:,:,0], cmap='Greys')
```

Out[65]:
```
<matplotlib.image.AxesImage at 0x27b5dc96180>
```



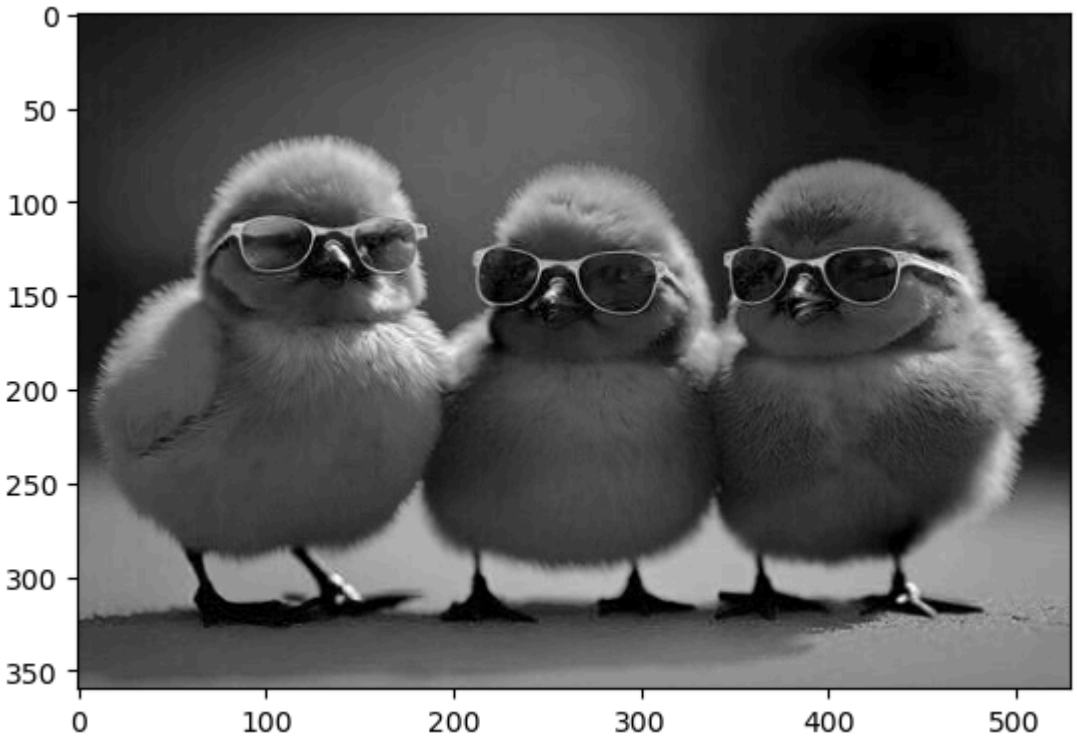
In [67]:
```
plt.imshow(chick_red[:,:,1], cmap='grey')
```

Out[67]:
```
<matplotlib.image.AxesImage at 0x27b5dccfb30>
```



In [71]:
```
plt.imshow(chick_red[:,:,2], cmap='grey')
```

Out[71]:
```
<matplotlib.image.AxesImage at 0x27b5dd411f0>
```



In [75]:
```
chick_red[:,:,0]
```

Out[75]:
```
array([[ 27,  27,  28, ...,  99,  98,  98],
       [ 27,  27,  28, ..., 100,  99,  99],
       [ 28,  28,  28, ..., 101, 100, 100],
       ...,
       [133, 133, 134, ..., 187, 186, 186],
       [140, 140, 141, ..., 186, 184, 184],
       [146, 146, 147, ..., 185, 183, 183]], dtype=uint8)
```

In [77]:
```
chick_red[:,:,1]
```

Out[77]:
```
array([[ 20,  20,  21, ..., 123, 122, 122],
       [ 20,  20,  21, ..., 124, 123, 123],
       [ 21,  21,  21, ..., 125, 124, 124],
       ...,
       [118, 118, 119, ..., 164, 165, 165],
       [123, 123, 124, ..., 163, 163, 163],
       [128, 128, 129, ..., 162, 162, 162]], dtype=uint8)
```

In [81]:
```
chick_red[:,:,2]
```

Out[81]:
```
array([[ 27,  27,  28, ...,  25,  28,  28],
       [ 27,  27,  28, ...,  26,  27,  27],
       [ 28,  28,  28, ...,  27,  28,  28],
       ...,
       [ 99,  99, 100, ..., 133, 134, 134],
       [103, 103, 104, ..., 132, 132, 132],
       [106, 106, 107, ..., 131, 131, 131]], dtype=uint8)
```

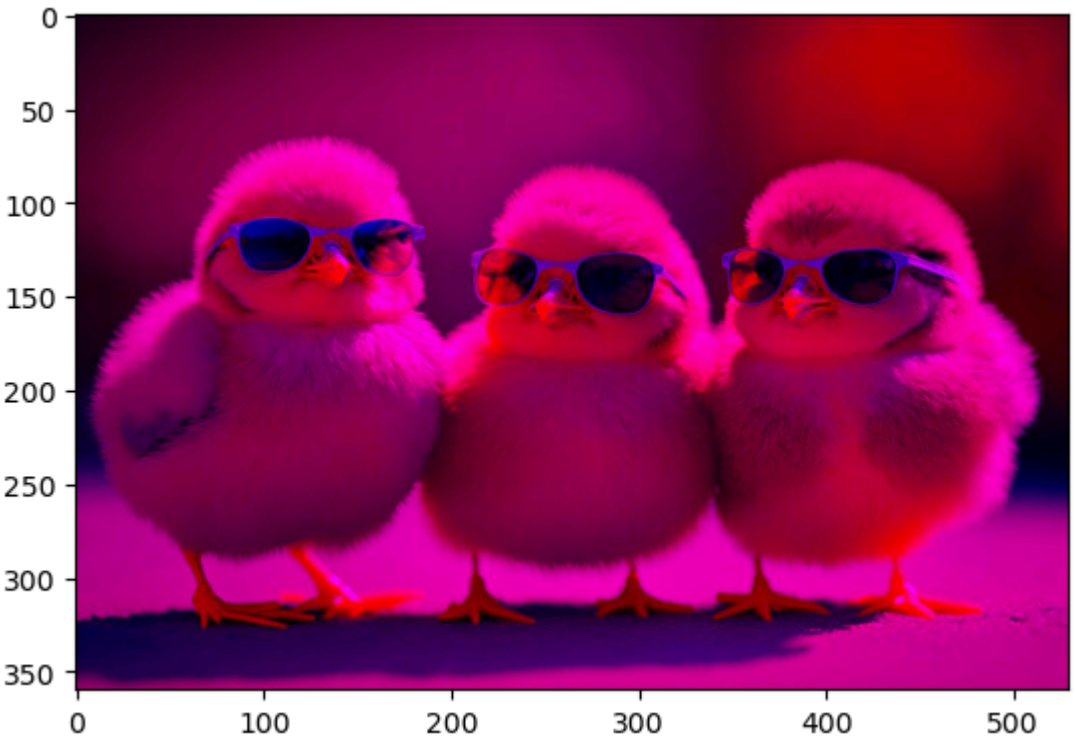
In [87]:
```
chick_red[:,:,1] = 0
```

In [89]:
```
chick_red[:,:,1]
```

Out[89]:
```
array([[0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       ...,
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0]], dtype=uint8)
```

In [91]:
```
plt.imshow(chick_red)
```

Out[91]:
```
<matplotlib.image.AxesImage at 0x27b5dda2b10>
```



In [95]:
```
chick_red[:,:,2]
```

Out[95]:
```
array([[ 27,  27,  28, ...,  25,  28,  28],
       [ 27,  27,  28, ...,  26,  27,  27],
       [ 28,  28,  28, ...,  27,  28,  28],
       ...,
       [ 99,  99, 100, ..., 133, 134, 134],
       [103, 103, 104, ..., 132, 132, 132],
       [106, 106, 107, ..., 131, 131, 131]], dtype=uint8)
```

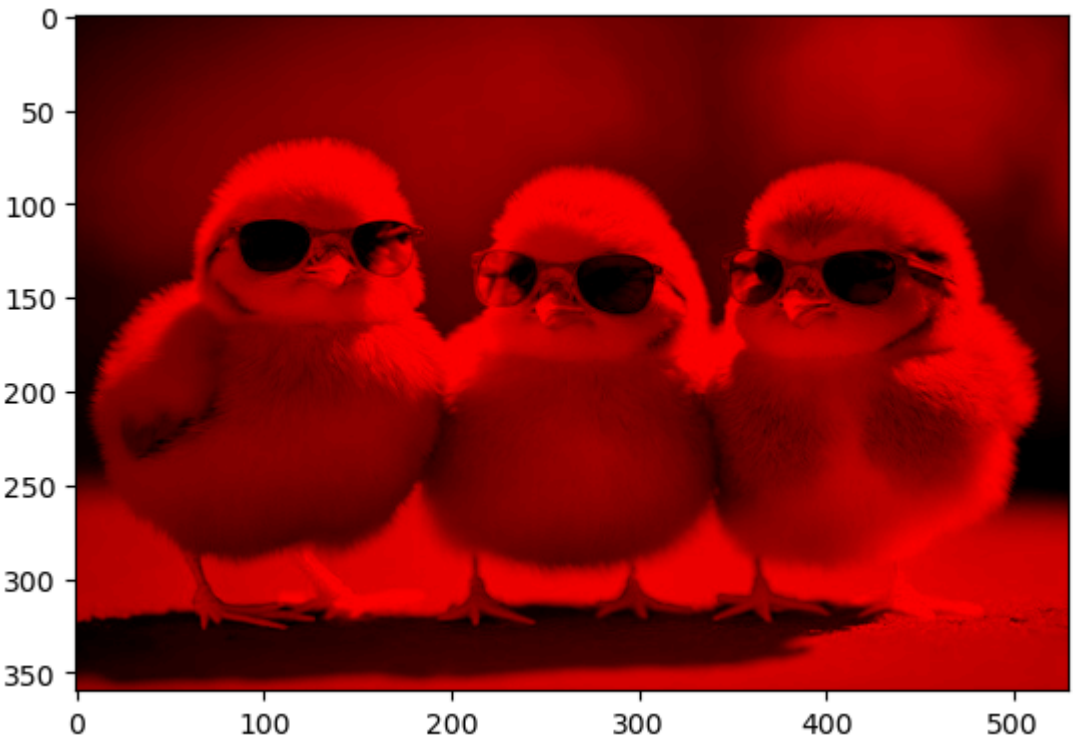
In [97]:
```
chick_red[:,:,2]  = 0
```

In [99]:
```
chick_red[:,:,2]
```

Out[99]:
```
array([[0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       ...,
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0],
       [0, 0, 0, ..., 0, 0, 0]], dtype=uint8)
```

In [101…
```
plt.imshow(chick_red)
```

Out[101…
```
<matplotlib.image.AxesImage at 0x27b5de56ea0>
```



In [103…
```
chick_arr
```

Out[103…

```
array([[[ 27,  20,  27],
        [ 27,  20,  27],
        [ 28,  21,  28],
        ...,
        [ 99, 123,  25],
        [ 98, 122,  28],
        [ 98, 122,  28]],

       [[ 27,  20,  27],
        [ 27,  20,  27],
        [ 28,  21,  28],
        ...,
        [100, 124,  26],
        [ 99, 123,  27],
        [ 99, 123,  27]],

       [[ 28,  21,  28],
        [ 28,  21,  28],
        [ 28,  21,  28],
        ...,
        [101, 125,  27],
        [100, 124,  28],
        [100, 124,  28]],

       ...,

       [[133, 118,  99],
        [133, 118,  99],
        [134, 119, 100],
        ...,
        [187, 164, 133],
        [186, 165, 134],
        [186, 165, 134]],

       [[140, 123, 103],
        [140, 123, 103],
        [141, 124, 104],
        ...,
        [186, 163, 132],
        [184, 163, 132],
        [184, 163, 132]],

       [[146, 128, 106],
        [146, 128, 106],
        [147, 129, 107],
        ...,
        [185, 162, 131],
        [183, 162, 131],
        [183, 162, 131]]], dtype=uint8)
```

In [105…

```
chick_red
```

Out[105…

```
array([[[ 27,   0,   0],
        [ 27,   0,   0],
        [ 28,   0,   0],
        ...,
        [ 99,   0,   0],
        [ 98,   0,   0],
        [ 98,   0,   0]],

       [[ 27,   0,   0],
        [ 27,   0,   0],
        [ 28,   0,   0],
        ...,
        [100,   0,   0],
        [ 99,   0,   0],
        [ 99,   0,   0]],

       [[ 28,   0,   0],
        [ 28,   0,   0],
        [ 28,   0,   0],
        ...,
        [101,   0,   0],
        [100,   0,   0],
        [100,   0,   0]],

       ...,

       [[133,   0,   0],
        [133,   0,   0],
        [134,   0,   0],
        ...,
        [187,   0,   0],
        [186,   0,   0],
        [186,   0,   0]],

       [[140,   0,   0],
        [140,   0,   0],
        [141,   0,   0],
        ...,
        [186,   0,   0],
        [184,   0,   0],
        [184,   0,   0]],

       [[146,   0,   0],
        [146,   0,   0],
        [147,   0,   0],
        ...,
        [185,   0,   0],
        [183,   0,   0],
        [183,   0,   0]]], dtype=uint8)
```

In [107…

```
chick_img
```

Out[107…

In [112…
```
arr1 = np.asarray(chick_img)
```

In [114…
```
type(arr1)
```

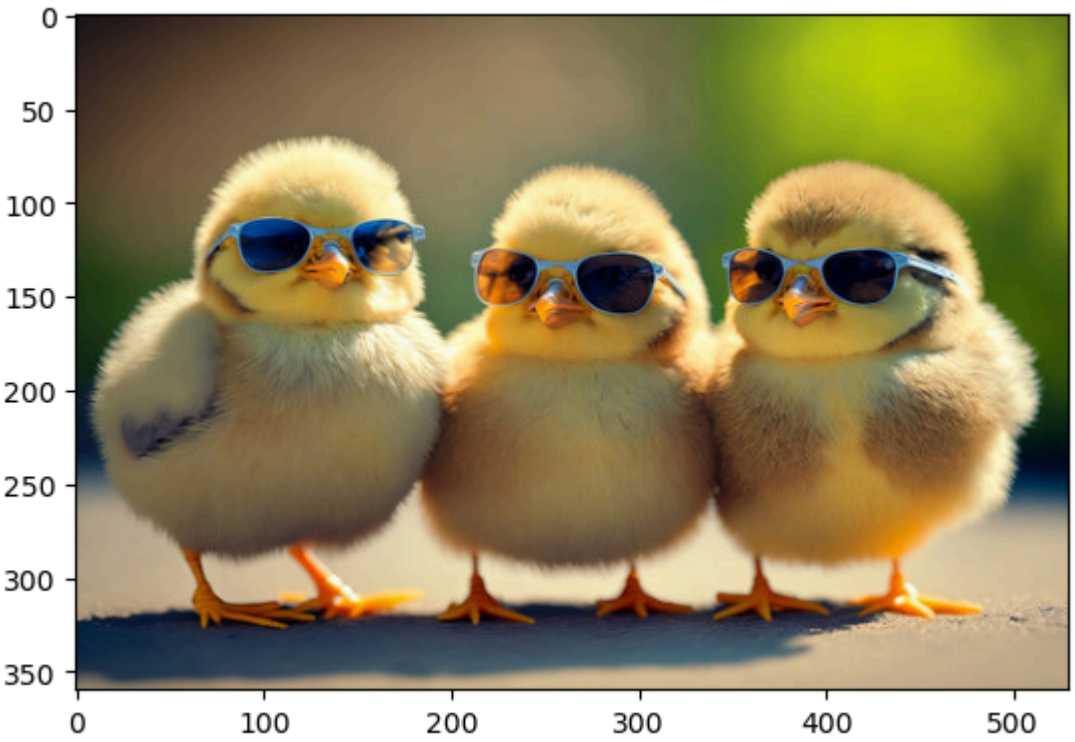
Out[114… numpy.ndarray

In [116…
```
arr1.shape
```

Out[116… (360, 530, 3)

In [118…
```
plt.imshow(arr1)
```

Out[118… <matplotlib.image.AxesImage at 0x27b5de4a9c0>

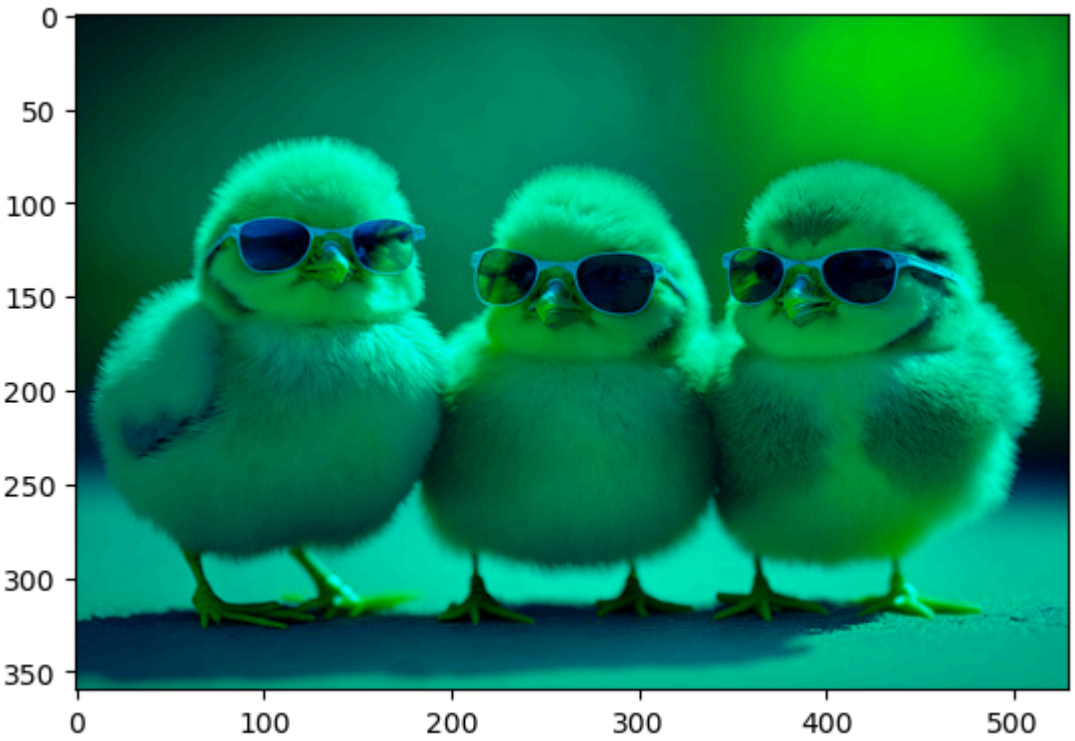


In [122…
```
chick_img1 = arr1.copy()
```

In [124…
```
chick_img1[:,:,0] = 0
```

In [127…
```
plt.imshow(chick_img1)
```

Out[127…
```
<matplotlib.image.AxesImage at 0x27b5ef545c0>
```



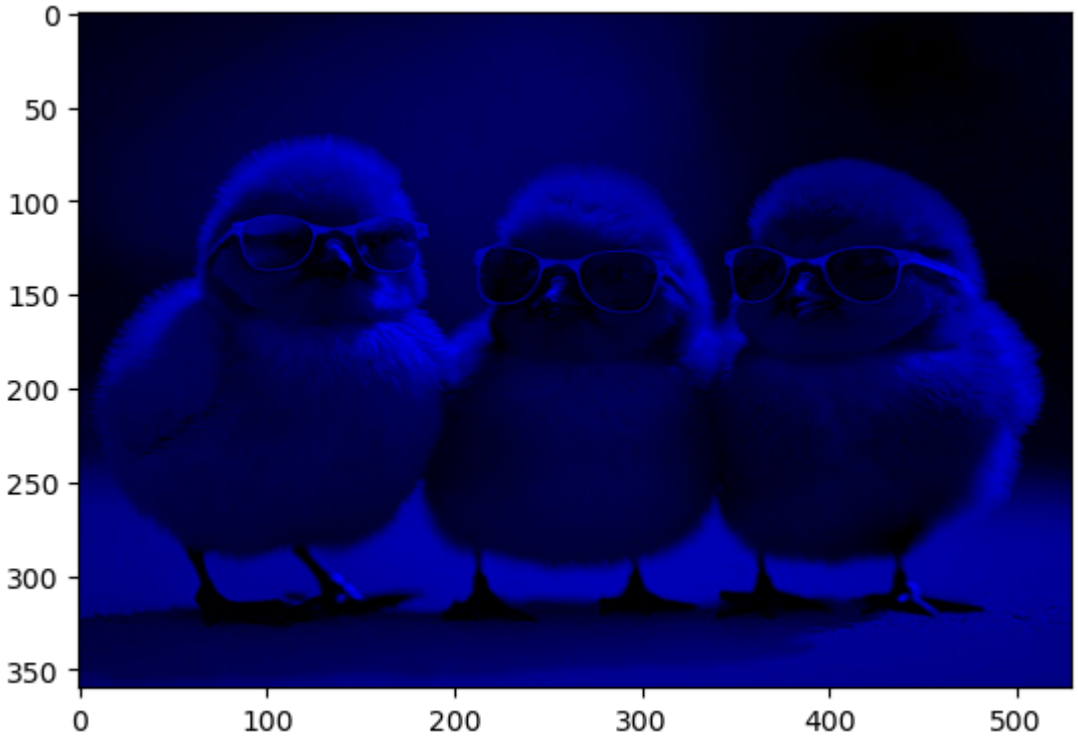
In [129…
```
chick_img1[:,:,1]
```

Out[129…
```
array([[ 20,  20,  21, ..., 123, 122, 122],
       [ 20,  20,  21, ..., 124, 123, 123],
       [ 21,  21,  21, ..., 125, 124, 124],
       ...,
       [118, 118, 119, ..., 164, 165, 165],
       [123, 123, 124, ..., 163, 163, 163],
       [128, 128, 129, ..., 162, 162, 162]], dtype=uint8)
```

In [131…
```
chick_img1[:,:,1] = 0
```

In [133…
```
plt.imshow(chick_img1)
```

Out[133…
```
<matplotlib.image.AxesImage at 0x27b5ef8a900>
```



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