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

In [2]:
```
import matplotlib.pyplot as plt
```

In [3]:
```
from PIL import Image
```

In [4]:
```
horse = Image.open(r'D:\fullstackNaresh\horse.jpeg')
```

In [5]:
```
horse
```

Out[5]:

In [12]:
```
type(horse)
```

Out[12]:
```
PIL.JpegImagePlugin.JpegImageFile
```

In [15]:
```
horse_arr=np.asarray(horse)
```

In [16]:
```
horse_arr
```

Out[16]:
```
array([[[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [25, 37, 35],
        [19, 34, 31],
        [14, 30, 27]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [26, 38, 36],
        [22, 37, 34],
        [20, 36, 33]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [28, 40, 38],
        [25, 40, 37],
        [24, 40, 37]],

       ...,

       [[49, 50, 44],
        [40, 41, 35],
        [35, 35, 27],
        ...,
        [14, 30, 29],
        [13, 25, 25],
        [12, 22, 23]],

       [[45, 50, 44],
        [38, 43, 37],
        [31, 36, 30],
        ...,
        [11, 25, 25],
        [12, 24, 24],
        [16, 26, 27]],

       [[31, 41, 33],
        [31, 41, 33],
        [32, 39, 32],
        ...,
        [14, 26, 26],
        [16, 26, 27],
        [23, 31, 33]]], dtype=uint8)
```

In [17]:
```
type(horse_arr)
```

Out[17]:
```
numpy.ndarray
```

In [18]:
```
plt.imshow(horse_arr)
```

Out[18]: <matplotlib.image.AxesImage at 0x19e5f5c9400>

In [19]:
```
horse_arr.shape
```

Out[19]: (2334, 3502, 3)

In [20]:
```
horse_newimage = horse_arr.copy()
horse_newimage
```

Out[20]:
```
array([[[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [25, 37, 35],
        [19, 34, 31],
        [14, 30, 27]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [26, 38, 36],
        [22, 37, 34],
        [20, 36, 33]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [28, 40, 38],
        [25, 40, 37],
        [24, 40, 37]],

       ...,

       [[49, 50, 44],
        [40, 41, 35],
        [35, 35, 27],
        ...,
        [14, 30, 29],
        [13, 25, 25],
        [12, 22, 23]],

       [[45, 50, 44],
        [38, 43, 37],
        [31, 36, 30],
        ...,
        [11, 25, 25],
        [12, 24, 24],
        [16, 26, 27]],

       [[31, 41, 33],
        [31, 41, 33],
        [32, 39, 32],
        ...,
        [14, 26, 26],
        [16, 26, 27],
        [23, 31, 33]]], dtype=uint8)
```

In [21]:
```
plt.imshow(horse_newimage)
```

Out[21]:
```
<matplotlib.image.AxesImage at 0x19e65f7bd70>
```

In [22]:
```
horse_newimage.shape
```

Out[22]:
```
(2334, 3502, 3)
```

In [24]:
```
horse_arr == horse_newimage
```

Out[24]:
```
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 [25]:
```
plt.imshow(horse_newimage)
```

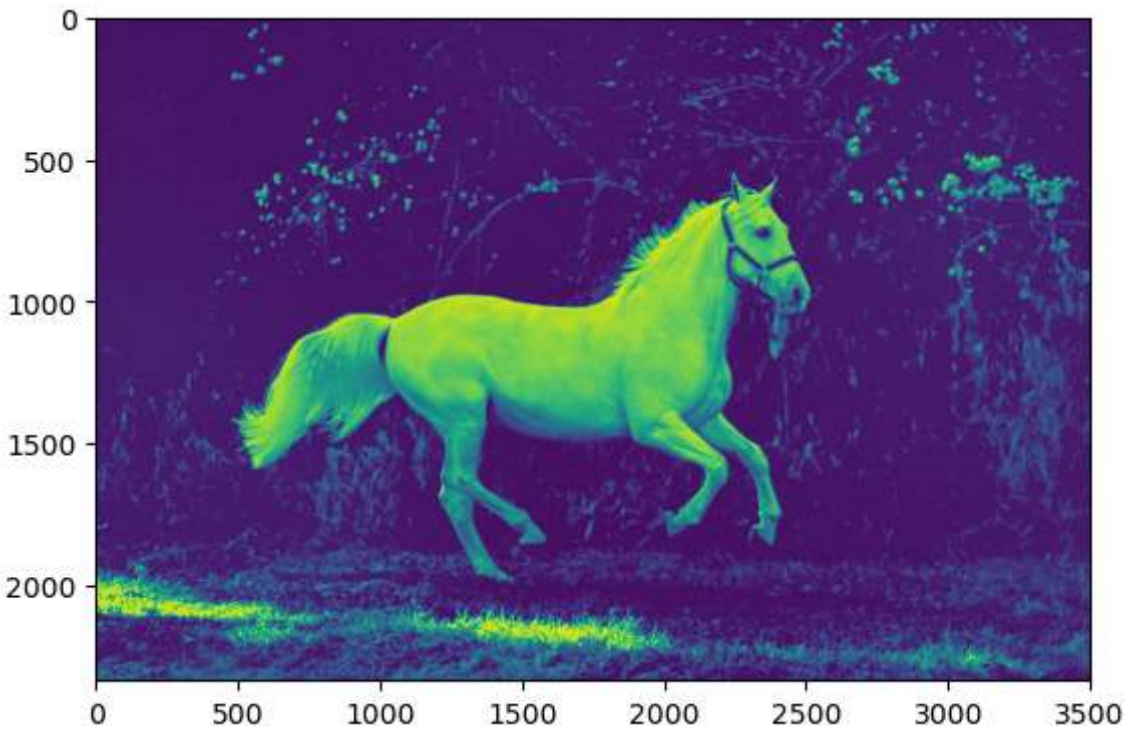
Out[25]:
```
<matplotlib.image.AxesImage at 0x19e65a10680>
```

In [26]:
```
horse_newimage.shape
```

Out[26]: (2334, 3502, 3)

In [38]:
```
plt.imshow(horse_newimage[:,:,0])
```

Out[38]: <matplotlib.image.AxesImage at 0x19e5f65d7f0>



In [39]:
```
horse_newimage[:,:,0]
```

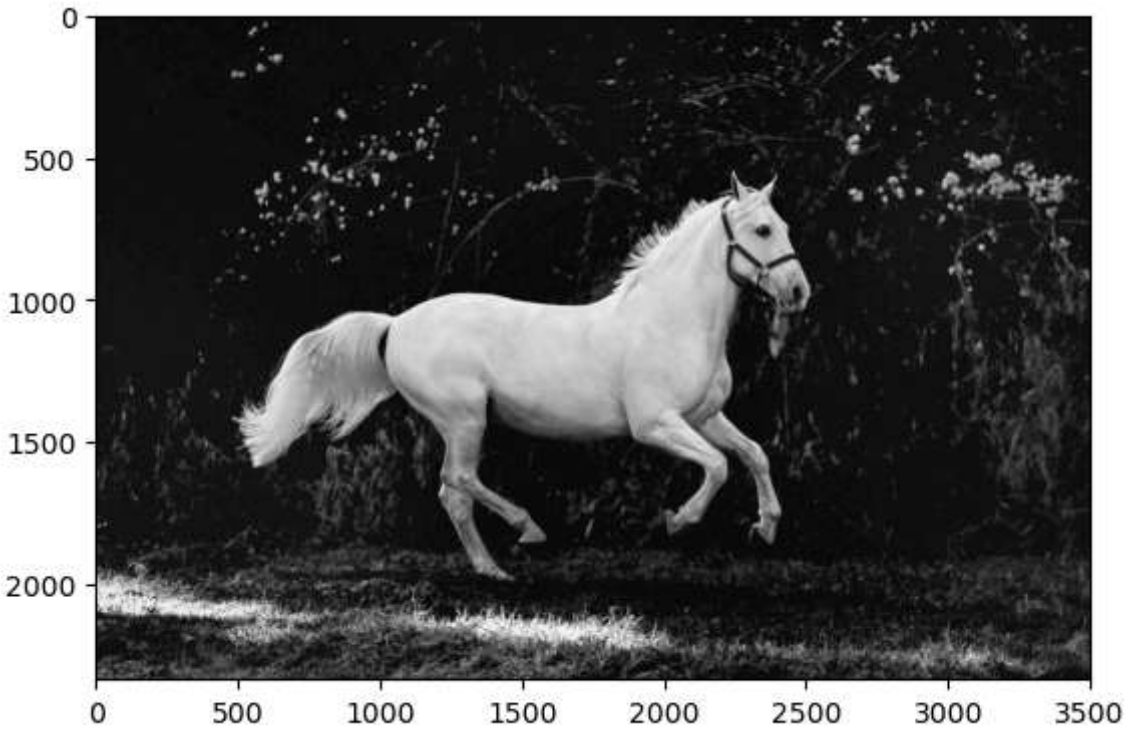
Out[39]:
```
array([[15, 15, 15, ..., 25, 19, 14],
       [15, 15, 15, ..., 26, 22, 20],
       [15, 15, 15, ..., 28, 25, 24],
       ...,
       [49, 40, 35, ..., 14, 13, 12],
       [45, 38, 31, ..., 11, 12, 16],
       [31, 31, 32, ..., 14, 16, 23]], dtype=uint8)
```

In [40]:
```
plt.imshow(horse_newimage[:,:,0],cmap='Greys')
```

Out[40]:
```
<matplotlib.image.AxesImage at 0x19e65a3e1b0>
```

In [42]:
```
plt.imshow(horse_newimage[:,:,0],cmap='grey')
```

Out[42]:
```
<matplotlib.image.AxesImage at 0x19e75f8b7a0>
```



In [43]:
```
plt.imshow(horse_newimage[:,:,0],cmap='YlGn')
```

Out[43]: <matplotlib.image.AxesImage at 0x19e760ea660>

In [44]:
```
horse_newimage[:,:,0]
```

Out[44]:
```
array([[15, 15, 15, ..., 25, 19, 14],
       [15, 15, 15, ..., 26, 22, 20],
       [15, 15, 15, ..., 28, 25, 24],
       ...,
       [49, 40, 35, ..., 14, 13, 12],
       [45, 38, 31, ..., 11, 12, 16],
       [31, 31, 32, ..., 14, 16, 23]], dtype=uint8)
```

In [45]:
```
horse_newimage[:,:,1]
```

Out[45]:
```
array([[17, 17, 17, ..., 37, 34, 30],
       [17, 17, 17, ..., 38, 37, 36],
       [17, 17, 17, ..., 40, 40, 40],
       ...,
       [50, 41, 35, ..., 30, 25, 22],
       [50, 43, 36, ..., 25, 24, 26],
       [41, 41, 39, ..., 26, 26, 31]], dtype=uint8)
```

In [46]:
```
horse_newimage[:,:,2]
```

Out[46]:
```
array([[29, 29, 29, ..., 35, 31, 27],
       [29, 29, 29, ..., 36, 34, 33],
       [29, 29, 29, ..., 38, 37, 37],
       ...,
       [44, 35, 27, ..., 29, 25, 23],
       [44, 37, 30, ..., 25, 24, 27],
       [33, 33, 32, ..., 26, 27, 33]], dtype=uint8)
```

In [47]:
```
plt.imshow(horse_newimage[:,:,2])
```

Out[47]:
```
<matplotlib.image.AxesImage at 0x19e76002780>
```

In [50]:
```
horse_newimage[:,:,2] = 0
```

In [51]:
```
horse_newimage[:,:,2]
```

Out[51]:
```
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 [52]:
```
plt.imshow(horse_newimage)
```

Out[52]:
```
<matplotlib.image.AxesImage at 0x19e7611edb0>
```

In [53]:
```
horse_arr
```

Out[53]:
```
array([[[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [25, 37, 35],
        [19, 34, 31],
        [14, 30, 27]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [26, 38, 36],
        [22, 37, 34],
        [20, 36, 33]],

       [[15, 17, 29],
        [15, 17, 29],
        [15, 17, 29],
        ...,
        [28, 40, 38],
        [25, 40, 37],
        [24, 40, 37]],

       ...,

       [[49, 50, 44],
        [40, 41, 35],
        [35, 35, 27],
        ...,
        [14, 30, 29],
        [13, 25, 25],
        [12, 22, 23]],

       [[45, 50, 44],
        [38, 43, 37],
        [31, 36, 30],
        ...,
        [11, 25, 25],
        [12, 24, 24],
        [16, 26, 27]],

       [[31, 41, 33],
        [31, 41, 33],
        [32, 39, 32],
        ...,
        [14, 26, 26],
        [16, 26, 27],
        [23, 31, 33]]], dtype=uint8)
```

In [54]:
```
horse_newimage
```

Out[54]:
```
array([[[15, 17,  0],
        [15, 17,  0],
        [15, 17,  0],
        ...,
        [25, 37,  0],
        [19, 34,  0],
        [14, 30,  0]],

       [[15, 17,  0],
        [15, 17,  0],
        [15, 17,  0],
        ...,
        [26, 38,  0],
        [22, 37,  0],
        [20, 36,  0]],

       [[15, 17,  0],
        [15, 17,  0],
        [15, 17,  0],
        ...,
        [28, 40,  0],
        [25, 40,  0],
        [24, 40,  0]],

       ...,

       [[49, 50,  0],
        [40, 41,  0],
        [35, 35,  0],
        ...,
        [14, 30,  0],
        [13, 25,  0],
        [12, 22,  0]],

       [[45, 50,  0],
        [38, 43,  0],
        [31, 36,  0],
        ...,
        [11, 25,  0],
        [12, 24,  0],
        [16, 26,  0]],

       [[31, 41,  0],
        [31, 41,  0],
        [32, 39,  0],
        ...,
        [14, 26,  0],
        [16, 26,  0],
        [23, 31,  0]]], dtype=uint8)
```

In [ ]: