In [1]:
```
"welcome to my code"
```

Out[1]:
```
'welcome to my code'
```

In [2]:
```
import numpy as np
```

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

Out[3]:
```
array([[1., 1., 1.],
       [1., 1., 1.],
       [1., 1., 1.]])
```

In [4]:
```
zeros_arr = np.zeros((3,3),dtype =int)
zeros_arr
```

Out[4]:
```
array([[0, 0, 0],
       [0, 0, 0],
       [0, 0, 0]])
```

In [5]:
```
zeros_arr=np.zeros((3,3),dtype=int)
zeros_arr
```

Out[5]:
```
array([[0, 0, 0],
       [0, 0, 0],
       [0, 0, 0]])
```

In [6]:
```
ones_arr
```

Out[6]:
```
array([[1., 1., 1.],
       [1., 1., 1.],
       [1., 1., 1.]])
```

In [7]:
```
ones_arr*255
```

Out[7]:
```
array([[255., 255., 255.],
       [255., 255., 255.],
       [255., 255., 255.]])
```

In [8]:
```
zeros_arr
```

Out[8]:
```
array([[0, 0, 0],
       [0, 0, 0],
       [0, 0, 0]])
```

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

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

In [10]:
```
import matplotlib.pyplot as plt
%matplotlib inline
```

In [11]:
```
from PIL import Image # python image library
```

In [12]:
```
t_image =Image.open(r'C:\Users\nilesh n ingole\Downloads\tiger.jpeg')
t_image
```

Out[12]:

In [13]:
```
type(t_image)
```

Out[13]:
```
PIL.JpegImagePlugin.JpegImageFile
```

In [14]:
```
t_arr =np.asarray(t_image)
t_image
```

Out[14]:

In [15]:
```
type(t_arr)
```

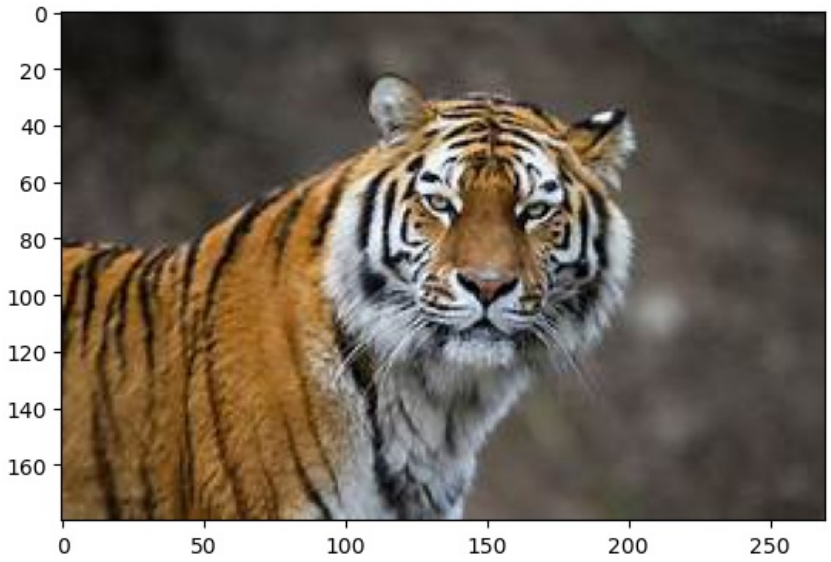
Out[15]:
```
numpy.ndarray
```

In [16]:
```
t_arr.shape
```

Out[16]:
```
(180, 270, 3)
```

In [17]:
```
plt.imshow(t_arr)
```

Out[17]:
```
<matplotlib.image.AxesImage at 0x1ca37e615e0>
```



In [18]:
```
t_red=t_arr.copy()
```

In [19]:
```
t_red
```

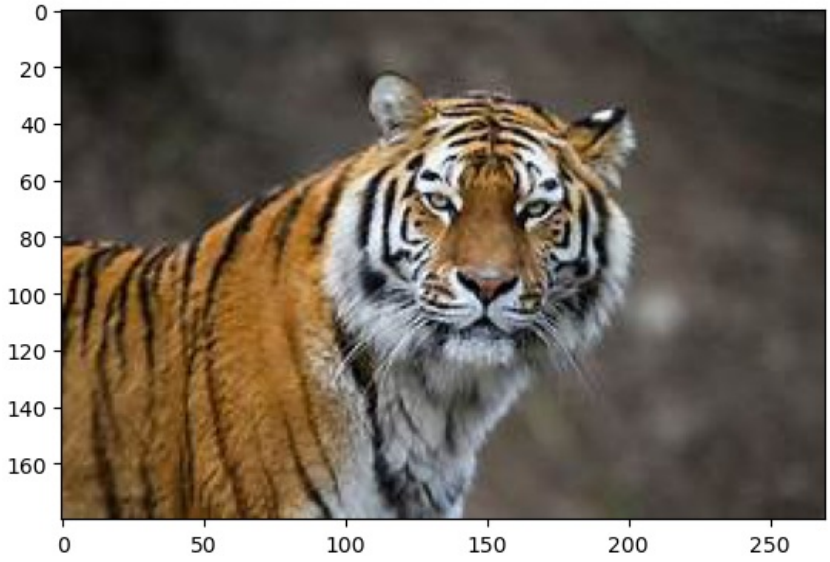
Out[19]:
```
array([[[ 37,  36,  34],
        [ 38,  37,  35],
        [ 38,  37,  35],
        ...,
        [ 45,  44,  42],
        [ 47,  46,  44],
        [ 49,  48,  46]],

       [[ 35,  34,  32],
        [ 36,  35,  33],
        [ 36,  35,  33],
        ...,
        [ 44,  43,  41],
        [ 45,  44,  42],
        [ 45,  44,  42]],

       [[ 32,  31,  29],
        [ 33,  32,  30],
        [ 33,  32,  30],
        ...,
        [ 52,  51,  49],
        [ 50,  49,  47],
        [ 49,  48,  46]],

       ...,

       [[130, 105,  75],
        [127, 102,  71],
        [127, 103,  69],
        ...,
        [ 51,  46,  42],
        [ 55,  50,  46],
        [ 62,  57,  53]],

       [[135, 110,  80],
        [130, 105,  74],
        [127, 103,  69],
        ...,
        [ 52,  47,  43],
        [ 57,  52,  48],
        [ 65,  60,  56]],

       [[136, 111,  81],
        [131, 106,  75],
        [127, 103,  69],
        ...,
        [ 57,  52,  48],
        [ 62,  57,  53],
        [ 72,  67,  63]]], dtype=uint8)
```

In [20]:
```
t_arr == t_red
```

Out[20]:
```
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 [21]:
```
plt.imshow(t_red)
```

Out[21]:
```
<matplotlib.image.AxesImage at 0x1ca38e847d0>
```

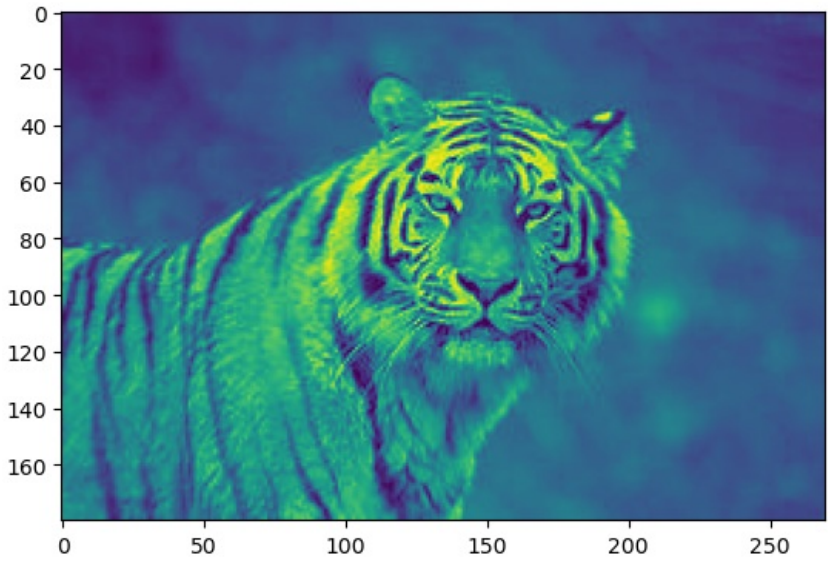


In [22]:
```
t_red.shape
```

Out[22]:
```
(180, 270, 3)
```

In [23]:
```
# r g b
plt.imshow(t_red[:,:,0])
```

Out[23]: <matplotlib.image.AxesImage at 0x1ca38f13470>

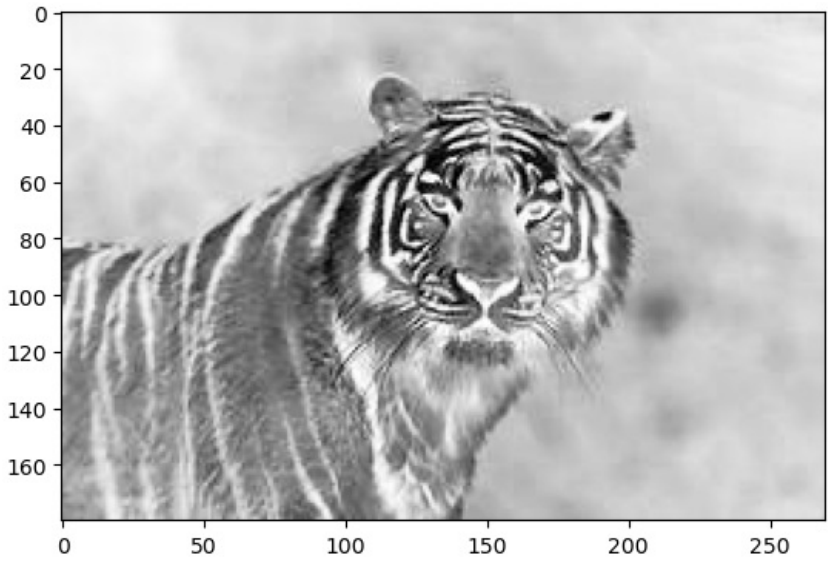


In [24]:
```
t_red[:,:,0]
```

Out[24]:
```
array([[ 37,  38,  38, ...,  45,  47,  49],
       [ 35,  36,  36, ...,  44,  45,  45],
       [ 32,  33,  33, ...,  52,  50,  49],
       ...,
       [130, 127, 127, ...,  51,  55,  62],
       [135, 130, 127, ...,  52,  57,  65],
       [136, 131, 127, ...,  57,  62,  72]], dtype=uint8)
```

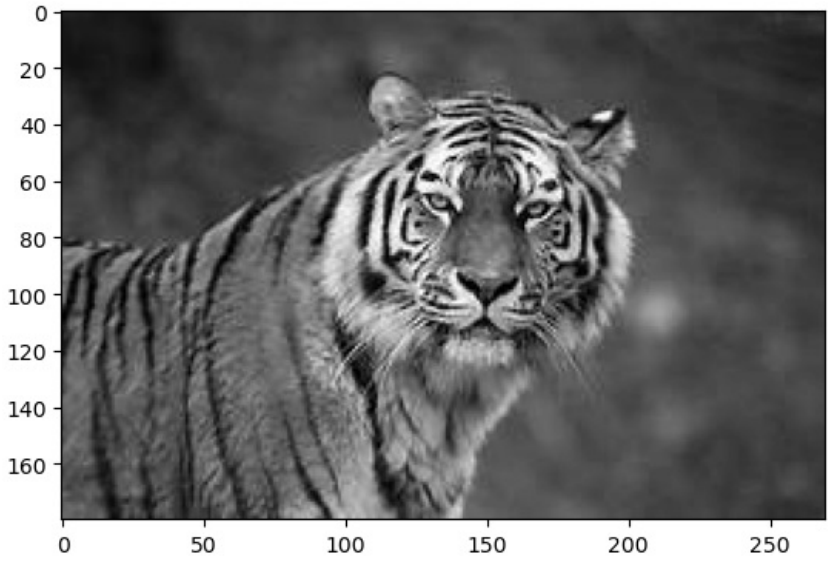
In [25]:
```
plt.imshow(t_red[:,:,0], cmap='Greys')
```

Out[25]: <matplotlib.image.AxesImage at 0x1ca38f4f380>



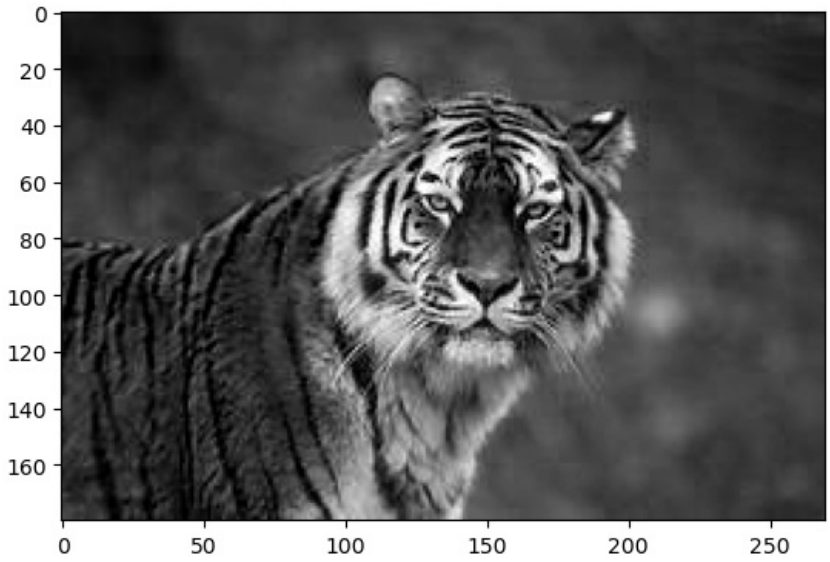
In [26]:
```
plt.imshow(t_red[:,:,1], cmap='gray')
```

Out[26]: <matplotlib.image.AxesImage at 0x1ca38f9ed50>



In [27]:
```
plt.imshow(t_red[:,:,2], cmap='gray')
```

Out[27]:
```
<matplotlib.image.AxesImage at 0x1ca3a70c7d0>
```



In [28]:
```
t_red[:,:,0]
```

Out[28]:
```
array([[ 37,  38,  38, ...,  45,  47,  49],
       [ 35,  36,  36, ...,  44,  45,  45],
       [ 32,  33,  33, ...,  52,  50,  49],
       ...,
       [130, 127, 127, ...,  51,  55,  62],
       [135, 130, 127, ...,  52,  57,  65],
       [136, 131, 127, ...,  57,  62,  72]], dtype=uint8)
```

In [29]:
```
t_red[:,:,1]
```

Out[29]:
```
array([[ 36,  37,  37, ...,  44,  46,  48],
       [ 34,  35,  35, ...,  43,  44,  44],
       [ 31,  32,  32, ...,  51,  49,  48],
       ...,
       [105, 102, 103, ...,  46,  50,  57],
       [110, 105, 103, ...,  47,  52,  60],
       [111, 106, 103, ...,  52,  57,  67]], dtype=uint8)
```

In [30]:
```
t_red[:,:,2]
```

Out[30]:
```
array([[34, 35, 35, ..., 42, 44, 46],
       [32, 33, 33, ..., 41, 42, 42],
       [29, 30, 30, ..., 49, 47, 46],
       ...,
       [75, 71, 69, ..., 42, 46, 53],
       [80, 74, 69, ..., 43, 48, 56],
       [81, 75, 69, ..., 48, 53, 63]], dtype=uint8)
```

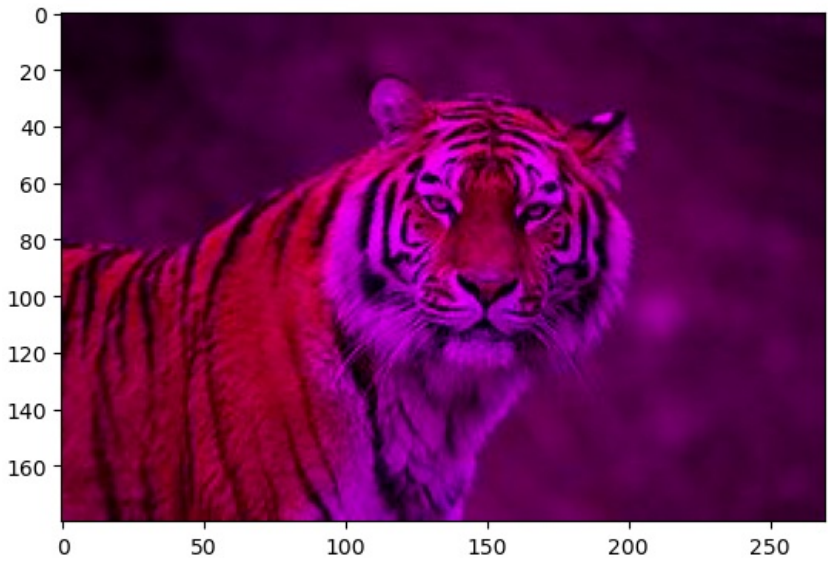
In [31]:
```
t_red[:,:,1]=0
```

In [32]:
```
t_red[:,:,1]
```

Out[32]:
```
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 [33]:
```
plt.imshow(t_red)
```

Out[33]:
```
<matplotlib.image.AxesImage at 0x1ca38ff1370>
```



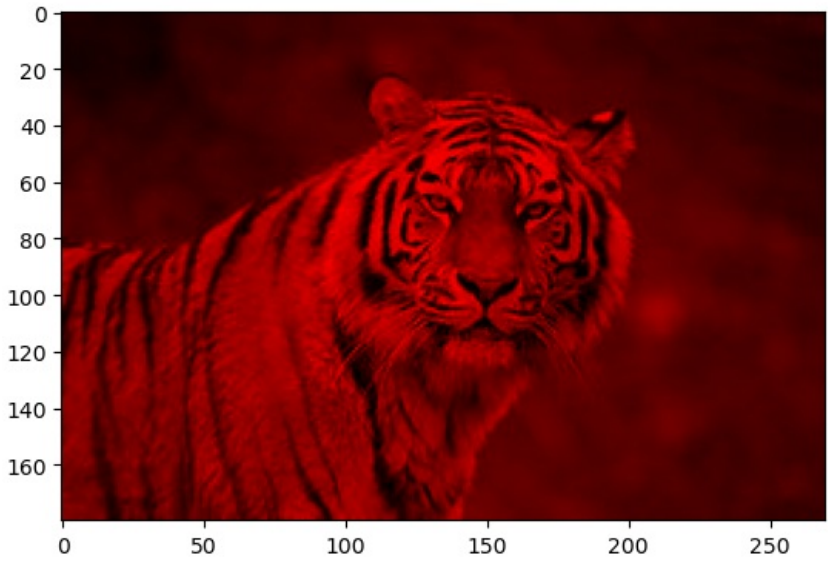
In [34]:
```
t_red[:,:,2]
```

Out[34]:
```
array([[34, 35, 35, ..., 42, 44, 46],
       [32, 33, 33, ..., 41, 42, 42],
       [29, 30, 30, ..., 49, 47, 46],
       ...,
       [75, 71, 69, ..., 42, 46, 53],
       [80, 74, 69, ..., 43, 48, 56],
       [81, 75, 69, ..., 48, 53, 63]], dtype=uint8)
```

In [35]:
```
t_red[:,:,2] = 0
```

In [36]:
```
plt.imshow(t_red)
```

Out[36]:
```
<matplotlib.image.AxesImage at 0x1ca38f9ec90>
```



In [37]:
```
t_arr
```

Out[37]:
```
array([[[ 37,  36,  34],
        [ 38,  37,  35],
        [ 38,  37,  35],
        ...,
        [ 45,  44,  42],
        [ 47,  46,  44],
        [ 49,  48,  46]],

       [[ 35,  34,  32],
        [ 36,  35,  33],
        [ 36,  35,  33],
        ...,
        [ 44,  43,  41],
        [ 45,  44,  42],
        [ 45,  44,  42]],

       [[ 32,  31,  29],
        [ 33,  32,  30],
        [ 33,  32,  30],
        ...,
        [ 52,  51,  49],
        [ 50,  49,  47],
        [ 49,  48,  46]],

       ...,

       [[130, 105,  75],
        [127, 102,  71],
        [127, 103,  69],
        ...,
        [ 51,  46,  42],
        [ 55,  50,  46],
        [ 62,  57,  53]],

       [[135, 110,  80],
        [130, 105,  74],
        [127, 103,  69],
        ...,
        [ 52,  47,  43],
        [ 57,  52,  48],
        [ 65,  60,  56]],

       [[136, 111,  81],
        [131, 106,  75],
        [127, 103,  69],
        ...,
        [ 57,  52,  48],
        [ 62,  57,  53],
        [ 72,  67,  63]]], dtype=uint8)
```

In [38]:
```
t_red
```

Out[38]:
```
array([[[ 37,   0,   0],
        [ 38,   0,   0],
        [ 38,   0,   0],
        ...,
        [ 45,   0,   0],
        [ 47,   0,   0],
        [ 49,   0,   0]],

       [[ 35,   0,   0],
        [ 36,   0,   0],
        [ 36,   0,   0],
        ...,
        [ 44,   0,   0],
        [ 45,   0,   0],
        [ 45,   0,   0]],

       [[ 32,   0,   0],
        [ 33,   0,   0],
        [ 33,   0,   0],
        ...,
        [ 52,   0,   0],
        [ 50,   0,   0],
        [ 49,   0,   0]],

       ...,

       [[130,   0,   0],
        [127,   0,   0],
        [127,   0,   0],
        ...,
        [ 51,   0,   0],
        [ 55,   0,   0],
        [ 62,   0,   0]],

       [[135,   0,   0],
        [130,   0,   0],
        [127,   0,   0],
        ...,
        [ 52,   0,   0],
        [ 57,   0,   0],
        [ 65,   0,   0]],

       [[136,   0,   0],
        [131,   0,   0],
        [127,   0,   0],
        ...,
        [ 57,   0,   0],
        [ 62,   0,   0],
        [ 72,   0,   0]]], dtype=uint8)
```

In [39]:
```
t_image
```

Out[39]:

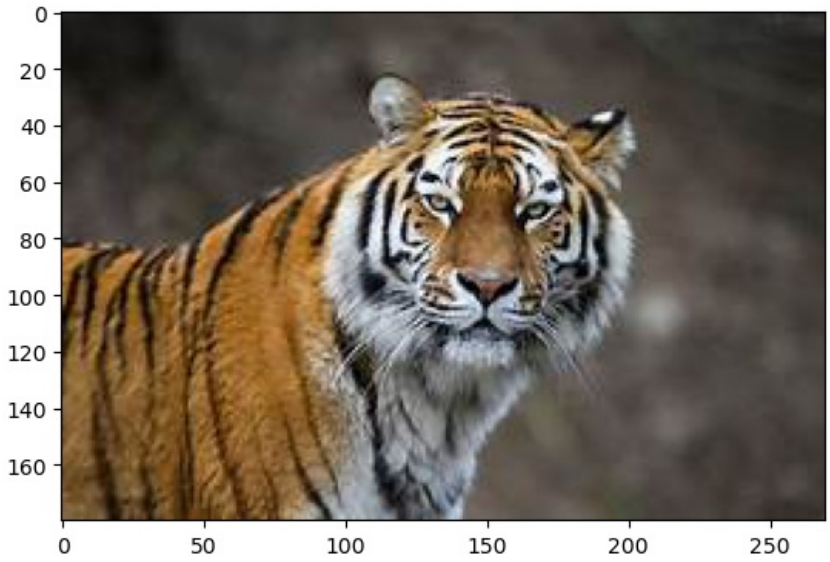
In [40]:
```
arr1 =np.asarray(t_image)
```

In [41]:
```
type(arr1)
```

Out[41]:
```
numpy.ndarray
```

In [42]:
```
plt.imshow(arr1)
```

Out[42]:
```
<matplotlib.image.AxesImage at 0x1ca3a77b020>
```

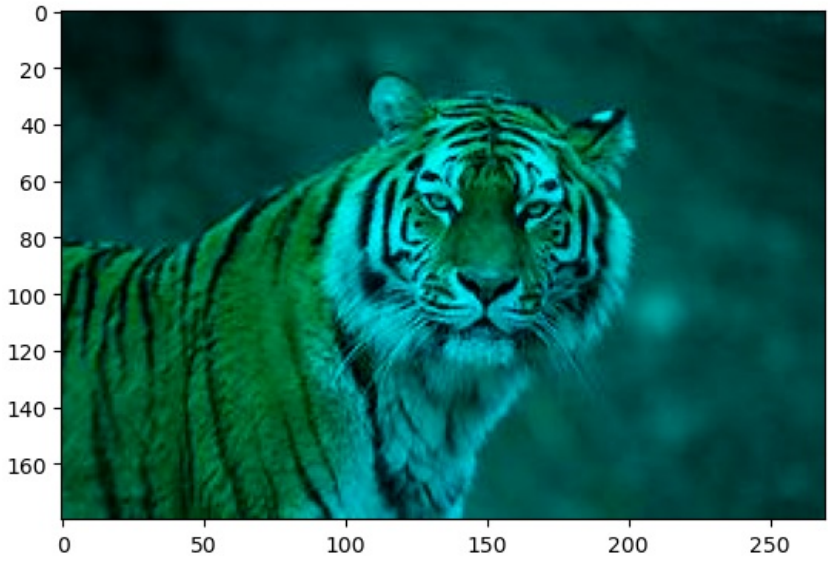


In [43]:
```
t_image1 =arr1.copy()
```

In [44]:
```
t_image1[:,:,0]=0
```

In [47]:
```
plt.imshow(t_image1)
```

Out[47]:
```
<matplotlib.image.AxesImage at 0x1ca39011100>
```



In [50]:
```
t_image1[:,:,1]
```

Out[50]:
```
array([[ 36,  37,  37, ...,  44,  46,  48],
       [ 34,  35,  35, ...,  43,  44,  44],
       [ 31,  32,  32, ...,  51,  49,  48],
       ...,
       [105, 102, 103, ...,  46,  50,  57],
       [110, 105, 103, ...,  47,  52,  60],
       [111, 106, 103, ...,  52,  57,  67]], dtype=uint8)
```

In [ ]:
```
t_image1[:,:,1] =0
```

In [ ]:
```
plt.imshow(t_image1)
```

In [ ]:

In [ ]:

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