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

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

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

In [4]:
```
jaihanuman=Image.open(r"C:\Users\HP\OneDrive\Desktop\jaihanuman.jpg")
```

In [5]:
```
jaihanuman
```

Out[5]:

In [6]:
```
type(jaihanuman)
```

Out[6]:
```
PIL.JpegImagePlugin.JpegImageFile
```

In [7]:
```
jaihanuman_arr=np.asarray(jaihanuman)
jaihanuman_arr
```

Out[7]:
```
array([[[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [ 9,  9,  7],
        [ 9,  9,  7],
        [ 9,  9,  7]],

       [[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [10, 10,  8],
        [10, 10,  8],
        [10, 10,  8]],

       [[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [11, 11,  9],
        [11, 11,  9],
        [11, 11,  9]],

       ...,

       [[ 3,  2,  0],
        [ 3,  2,  0],
        [ 4,  3,  0],
        ...,
        [ 4, 13, 12],
        [ 5, 14, 13],
        [ 5, 14, 13]],

       [[ 2,  3,  0],
        [ 2,  3,  0],
        [ 3,  4,  0],
        ...,
        [ 4, 13, 12],
        [ 4, 13, 12],
        [ 5, 14, 13]],

       [[ 4,  4,  2],
        [ 3,  3,  1],
        [ 3,  3,  1],
        ...,
        [ 5, 14, 13],
        [ 5, 14, 13],
        [ 6, 15, 14]]], dtype=uint8)
```

In [8]:
```
type(jaihanuman_arr)
```

Out[8]:
```
numpy.ndarray
```

In [9]:
```
plt.imshow(jaihanuman_arr)
```

Out[9]: <matplotlib.image.AxesImage at 0x268b4004170>

In [10]:
```
jaihanuman_arr.shape
```

Out[10]: (533, 300, 3)

In [78]:
```
jaihanuman_arr.size
```

Out[78]: 479700

In [11]:
```
jaihanuman_red=jaihanuman_arr.copy()
```

In [12]:
```
jaihanuman_red
```

Out[12]:
```
array([[[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [ 9,  9,  7],
        [ 9,  9,  7],
        [ 9,  9,  7]],

       [[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [10, 10,  8],
        [10, 10,  8],
        [10, 10,  8]],

       [[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [11, 11,  9],
        [11, 11,  9],
        [11, 11,  9]],

       ...,

       [[ 3,  2,  0],
        [ 3,  2,  0],
        [ 4,  3,  0],
        ...,
        [ 4, 13, 12],
        [ 5, 14, 13],
        [ 5, 14, 13]],

       [[ 2,  3,  0],
        [ 2,  3,  0],
        [ 3,  4,  0],
        ...,
        [ 4, 13, 12],
        [ 4, 13, 12],
        [ 5, 14, 13]],

       [[ 4,  4,  2],
        [ 3,  3,  1],
        [ 3,  3,  1],
        ...,
        [ 5, 14, 13],
        [ 5, 14, 13],
        [ 6, 15, 14]]], dtype=uint8)
```

In [13]:
```
jaihanuman_arr==jaihanuman_red
```

Out[13]:
```
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 [14]:
```
plt.imshow(jaihanuman_red)
```

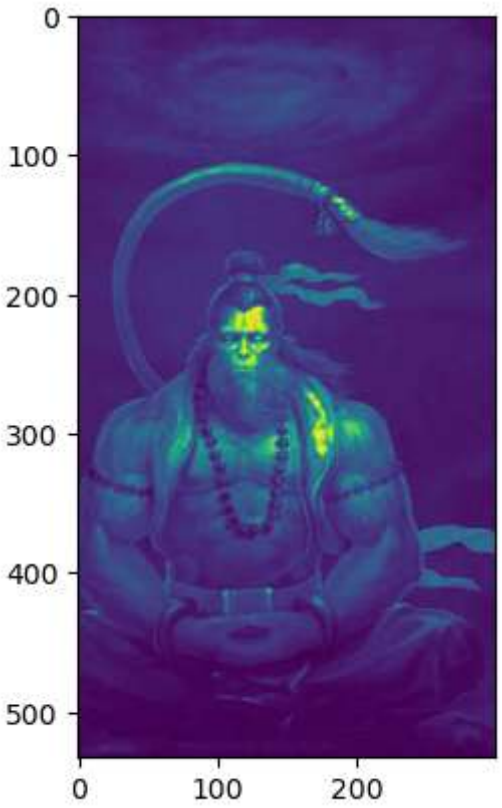
Out[14]:
```
<matplotlib.image.AxesImage at 0x268b42f3ce0>
```

In [15]:
```
jaihanuman_red.shape
```

Out[15]:
```
(533, 300, 3)
```

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

Out[16]:
```
<matplotlib.image.AxesImage at 0x268b5b42960>
```

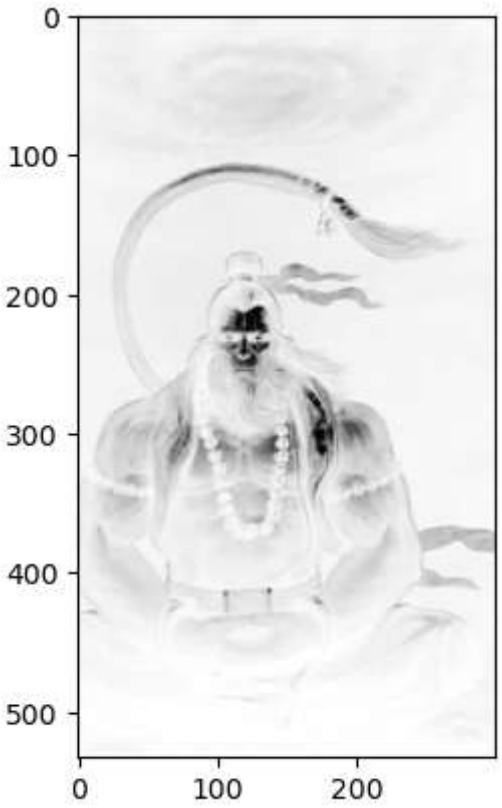


In [17]:
```
jaihanuman_red[:,:,0]
```

Out[17]:
```
array([[26, 26, 26, ...,  9,  9,  9],
       [26, 26, 26, ..., 10, 10, 10],
       [26, 26, 26, ..., 11, 11, 11],
       ...,
       [ 3,  3,  4, ...,  4,  5,  5],
       [ 2,  2,  3, ...,  4,  4,  5],
       [ 4,  3,  3, ...,  5,  5,  6]], dtype=uint8)
```

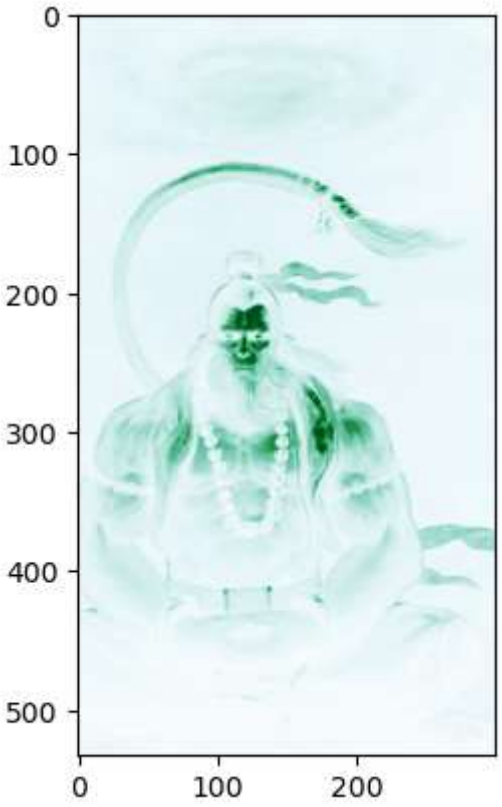
In [18]:
```
plt.imshow(jaihanuman_red[:,:,0],cmap='Greys')
```

Out[18]:
```
<matplotlib.image.AxesImage at 0x268b5b417f0>
```



In [19]:
```
plt.imshow(jaihanuman_red[:,:,0],cmap='BuGn')
```

Out[19]: <matplotlib.image.AxesImage at 0x268b5c042c0>

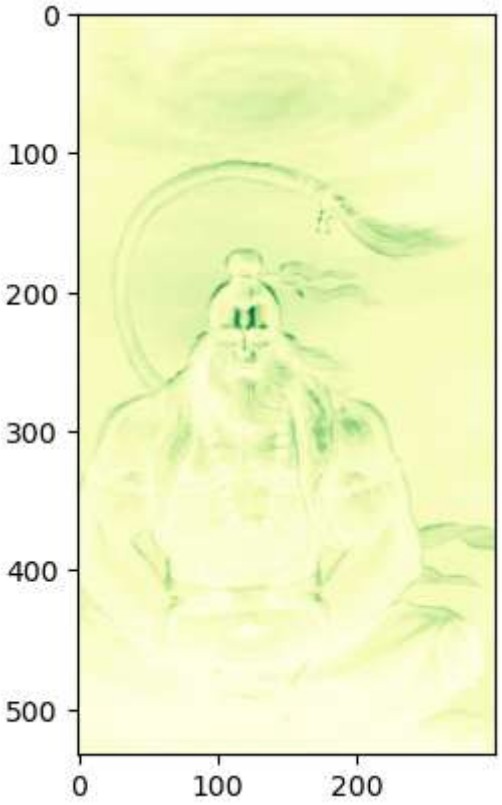


In [20]:
```
plt.imshow(jaihanuman_red[:,:,1],cmap='grey')
```

Out[20]: <matplotlib.image.AxesImage at 0x268b535b380>

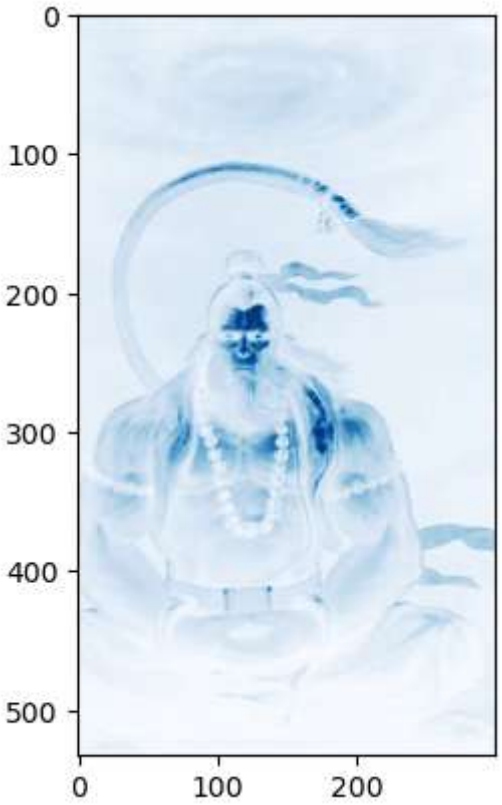
In [21]:
```
plt.imshow(jaihanuman_red[:,:,1], cmap='YlGn')
```

Out[21]: <matplotlib.image.AxesImage at 0x268b53ebd40>



In [76]:
```
plt.imshow(jaihanuman_red[:,:,0],cmap='Blues')
```

Out[76]:
```
<matplotlib.image.AxesImage at 0x268b5b96a80>
```



In [22]:
```
jaihanuman_red[:,:,0]
```

Out[22]:
```
array([[26, 26, 26, ...,  9,  9,  9],
       [26, 26, 26, ..., 10, 10, 10],
       [26, 26, 26, ..., 11, 11, 11],
       ...,
       [ 3,  3,  4, ...,  4,  5,  5],
       [ 2,  2,  3, ...,  4,  4,  5],
       [ 4,  3,  3, ...,  5,  5,  6]], dtype=uint8)
```

In [23]:
```
jaihanuman_red[:,:,1]
```

Out[23]:
```
array([[25, 25, 25, ...,  9,  9,  9],
       [25, 25, 25, ..., 10, 10, 10],
       [25, 25, 25, ..., 11, 11, 11],
       ...,
       [ 2,  2,  3, ..., 13, 14, 14],
       [ 3,  3,  4, ..., 13, 13, 14],
       [ 4,  3,  3, ..., 14, 14, 15]], dtype=uint8)
```

In [24]:
```
jaihanuman_red[:,:,2]
```

Out[24]:
```
array([[23, 23, 23, ...,  7,  7,  7],
       [23, 23, 23, ...,  8,  8,  8],
       [23, 23, 23, ...,  9,  9,  9],
       ...,
       [ 0,  0,  0, ..., 12, 13, 13],
       [ 0,  0,  0, ..., 12, 12, 13],
       [ 2,  1,  1, ..., 13, 13, 14]], dtype=uint8)
```

In [25]:
```
jaihanuman_red[:,:,1]=0
```

In [26]:
```
jaihanuman_red[:,:,1]
```

Out[26]:
```
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 [27]:
```
plt.imshow(jaihanuman_red)
```

Out[27]:
```
<matplotlib.image.AxesImage at 0x268b5d89940>
```

In [28]:
```
jaihanuman_red[:,:,2]
```

Out[28]:
```
array([[23, 23, 23, ...,  7,  7,  7],
       [23, 23, 23, ...,  8,  8,  8],
       [23, 23, 23, ...,  9,  9,  9],
       ...,
       [ 0,  0,  0, ..., 12, 13, 13],
       [ 0,  0,  0, ..., 12, 12, 13],
       [ 2,  1,  1, ..., 13, 13, 14]], dtype=uint8)
```

In [29]:
```
jaihanuman_red[:,:,2]=0
```

In [30]:
```
jaihanuman_arr
```

Out[30]:
```
array([[[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [ 9,  9,  7],
        [ 9,  9,  7],
        [ 9,  9,  7]],

       [[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [10, 10,  8],
        [10, 10,  8],
        [10, 10,  8]],

       [[26, 25, 23],
        [26, 25, 23],
        [26, 25, 23],
        ...,
        [11, 11,  9],
        [11, 11,  9],
        [11, 11,  9]],

       ...,

       [[ 3,  2,  0],
        [ 3,  2,  0],
        [ 4,  3,  0],
        ...,
        [ 4, 13, 12],
        [ 5, 14, 13],
        [ 5, 14, 13]],

       [[ 2,  3,  0],
        [ 2,  3,  0],
        [ 3,  4,  0],
        ...,
        [ 4, 13, 12],
        [ 4, 13, 12],
        [ 5, 14, 13]],

       [[ 4,  4,  2],
        [ 3,  3,  1],
        [ 3,  3,  1],
        ...,
        [ 5, 14, 13],
        [ 5, 14, 13],
        [ 6, 15, 14]]], dtype=uint8)
```

In [31]:
```
jaihanuman_red
```

Out[31]:
```
array([[[26,  0,  0],
        [26,  0,  0],
        [26,  0,  0],
        ...,
        [ 9,  0,  0],
        [ 9,  0,  0],
        [ 9,  0,  0]],

       [[26,  0,  0],
        [26,  0,  0],
        [26,  0,  0],
        ...,
        [10,  0,  0],
        [10,  0,  0],
        [10,  0,  0]],

       [[26,  0,  0],
        [26,  0,  0],
        [26,  0,  0],
        ...,
        [11,  0,  0],
        [11,  0,  0],
        [11,  0,  0]],

       ...,

       [[ 3,  0,  0],
        [ 3,  0,  0],
        [ 4,  0,  0],
        ...,
        [ 4,  0,  0],
        [ 5,  0,  0],
        [ 5,  0,  0]],

       [[ 2,  0,  0],
        [ 2,  0,  0],
        [ 3,  0,  0],
        ...,
        [ 4,  0,  0],
        [ 4,  0,  0],
        [ 5,  0,  0]],

       [[ 4,  0,  0],
        [ 3,  0,  0],
        [ 3,  0,  0],
        ...,
        [ 5,  0,  0],
        [ 5,  0,  0],
        [ 6,  0,  0]]], dtype=uint8)
```

In [32]:
```
jaihanuman
```

Out[32]:

In [33]:
```
import numpy as np
```

In [34]:
```
import matplotlib.pyplot as plt
```

In [35]:
```
from PIL import Image
```

In [36]:
```
img=Image.open(r"C:\Users\HP\OneDrive\Desktop\HANUMAN.jpg")
```

In [37]:
```
img
```

Out[37]:

Project-1 is Completed...

In [ ]: