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Data Science Intern @ LGM Virtual Intrnship 2021 (October)

Beginner Level Task

Task 4: Image to Pencil Sketch with Python

In [1]:
```
!pip install opencv-python
```

```
Collecting opencv-python
  Downloading opencv_python-4.5.3.56-cp38-cp38-win_amd64.whl (34.9 MB)
Requirement already satisfied: numpy>=1.17.3 in c:\users\smital bhalerao\anaconda3\lib\site-packages (from opencv-python) (1.20.1)
Installing collected packages: opencv-python
Successfully installed opencv-python-4.5.3.56
```

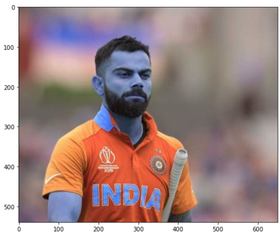
In [2]:
```
import cv2
import matplotlib.pyplot as plt
```

Original Image

In [3]:
```
image=cv2.imread("C:\\Users\\Smital Bhalerao\\Desktop\\vk.jpg")
```

In [4]:
```
plt.figure(figsize=(8,8))
plt.imshow(image)
```

Out[4]:
```
<matplotlib.image.AxesImage at 0x18506b34340>
```



Gray Image

In [5]:
```
gray_image=cv2.cvtColor(image,cv2.COLOR_BGR2GRAY)
```

In [6]:
```
plt.figure(figsize=(8,8))
plt.imshow(gray_image)
```

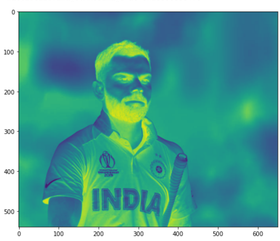
Out[6]:
```
<matplotlib.image.AxesImage at 0x18506e5e1f0>
```

Inverted Gray Image

In [7]:
```
inverted_gray_image=255-gray_image
```

In [8]:
```
plt.figure(figsize=(8,8))
plt.imshow(inverted_gray_image)
```

Out[8]:
```
<matplotlib.image.AxesImage at 0x18506e854f0>
```

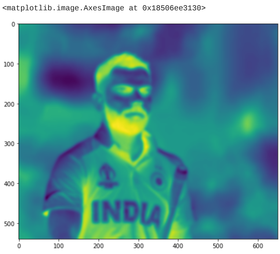


Blurred Image

In [9]:
```
blurred_image=cv2.GaussianBlur(inverted_gray_image,(21,21),0)
```

In [10]:
```
plt.figure(figsize=(8,8))
plt.imshow(blurred_image)
```

Out[10]:
```
<matplotlib.image.AxesImage at 0x18506ee3130>
```

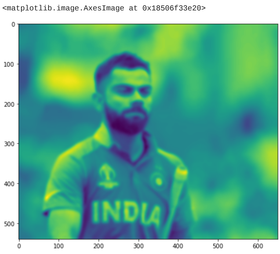


Inverted Blurred Image

In [11]:
```
inverted_blurred_image=255-blurred_image
```

In [12]:
```
plt.figure(figsize=(8,8))
plt.imshow(inverted_blurred_image)
```

Out[12]:
```
<matplotlib.image.AxesImage at 0x18506f33e20>
```



Pencil Sketch Image

In [13]:
```
pencil_sketch_image=cv2.divide(gray_image,inverted_blurred_image,scale=256.0)
```

In [14]:
```
plt.figure(figsize=(8,8))
plt.imshow(pencil_sketch_image)
```

Out[14]:
```
<matplotlib.image.AxesImage at 0x18506f8ea00>
```

In [ ]:
```
cv2.imshow("Original Image",image)
cv2.imshow("New Image",pencil_sketch_image)
cv2.waitKey(0)
```

In [ ]:
```
```