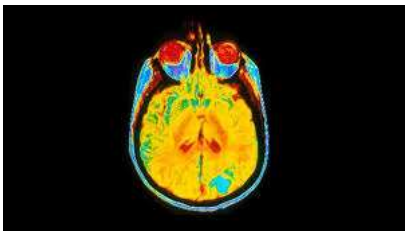
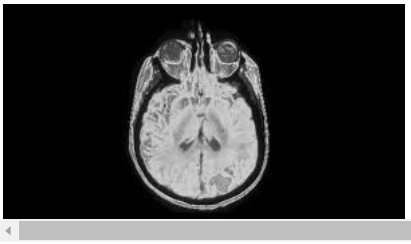
```
import os
import cv2
import numpy as np


from google.colab import files


uploaded = files.upload()
```

Choose Files No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving Brain.jpeg to Brain.jpeg

```
image = cv2.imread(r'Brain.jpeg')


from google.colab.patches import cv2_imshow


cv2_imshow(image)
```



```
gray_image = cv2.cvtColor(image,cv2.COLOR_BGR2GRAY)


cv2_imshow(gray_image)
```



```
print(gray_image.shape, gray_image.dtype, type(gray_image))
print(np.mean(gray_image))
print(np.sum(gray_image))
print(np.mean(gray_image)/ np.std(gray_image))
print(np.max(gray_image))
print(np.min(gray_image))
```

```
(168, 300) uint8 <class 'numpy.ndarray'>
31.972023809523808
1611390
0.49015966605104544
241
0
```

```
BrightImg = gray_image+25
ConcatImage = cv2.hconcat([gray_image,BrightImg])
cv2_imshow(ConcatImage)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

```
NegativeImg = 255-gray_image
cv2_imshow(NegativeImg)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

```
gray_matrix = np.array(gray_image)

print (gray_matrix)
```

Show hidden output