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Unsupervised Segmentation

In this case, I will try to detect brain tumor object in an image using unsupervised segmentation method. By detecting brain tumor, it can be used to measure the level of malignancy the tumor.

Import io, segmentation, and color module from skimage for segmentation processing.

Import imread from skimage.io for read dataset.

Import pyplot from matplotlib for visualization.

```
In [1]: from skimage import io, segmentation, color # module for segmentation
```

```
In [2]: from skimage.io import imread
```

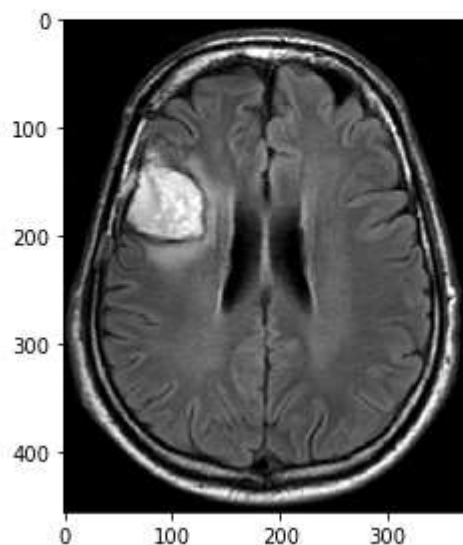
```
In [3]: from matplotlib import pyplot as plt
```

Read and showing the image

```
In [4]: img=imread('braintumor.jpg')
```

```
In [5]: io.imshow(img) # show the input image
```

```
Out[5]: <matplotlib.image.AxesImage at 0x1de8f32c3a0>
```



grouping the original image into 31 groups

```
In [6]: image_slic=segmentation.slic(img,n_segments=31)
```

```
In [7]: superpixels=color.label2rgb(image_slic, img, kind='avg') # find the intensity inside of the group by average
```

Showing the result after image processing

```
In [8]: io.imshow(superpixels)
```

```
Out[8]: <matplotlib.image.AxesImage at 0x1de8f3ee370>
```

