Experiment1.1

Student Name: Himanshu **UID**: 20BCS7944
Branch: CSE **Section**: 20BCS-21/B
Semester: 7 **Date of Performance**: 09/08/2023
**Subject Name**: Computer Vision Lab **Subject Code**: 20CSP-422

Aim:

Write a program to implement various feature extraction techniques for image classification.

Software Required: Google colab notebook

Feature extraction: Thresholding -

```
import skimage
from skimage import data, io
import numpy as np
from matplotlib import pyplot as plt
%matplotlib inline
camera = data.camera()
io.imshow(camera)
plt.show()
threshold_value = 200
camera_threholded = camera > threshold_value
io.imshow(camera)
plt.show()
io.imshow(camera_threholded)
plt.show()
```

Output:
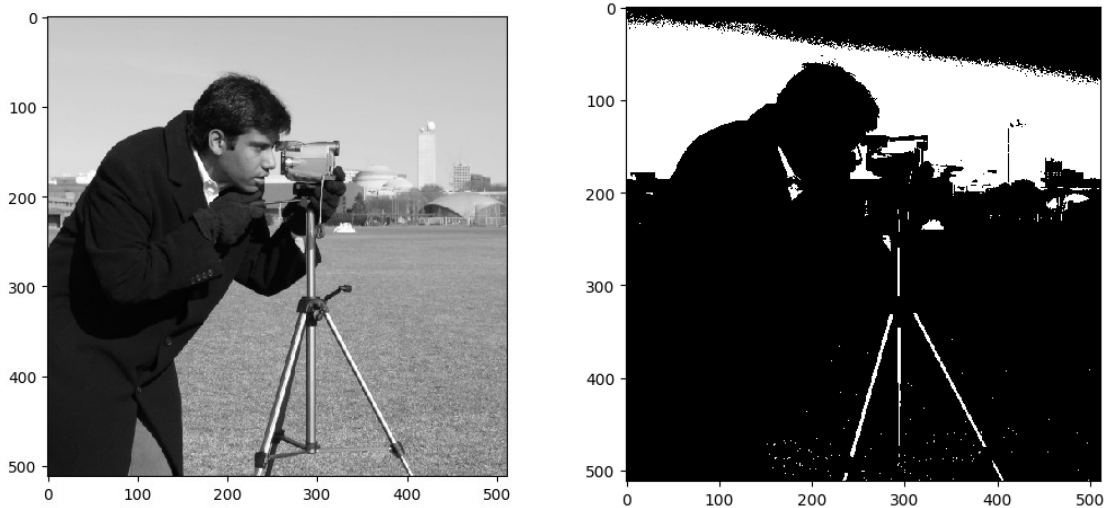
Feature extraction: Grayscale Pixel Values -

```
import skimage
from skimage import data, io
import numpy as np
from matplotlib import pyplot as plt
%matplotlib inline
camera.shape
features = np.reshape(camera, (512*512))
features.shape, features
```

Output:

```
(512, 512)
```

```
((262144,), array([200, 200, 200, ..., 151, 152, 149], dtype=uint8))
```

Feature extraction: Edge Detection -

```
import skimage.color import rgb2gray
from skimage.feature import canny
rocket = data.rocket()
io.imshow(rocket)
plt.show()
rocket = color.rgb2gray(rocket)
rocket_edges = canny(rocket)
io.imshow(rocket_edges)
plt.show()
```

Output: