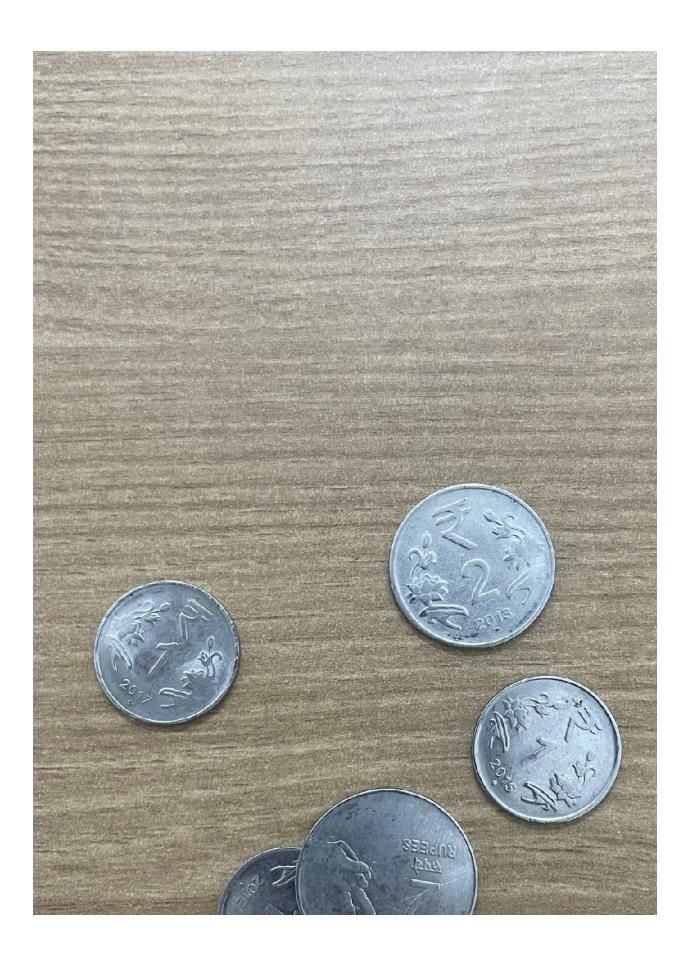
```
# Importing necessary libraries
import cv2
import numpy as np
from google.colab.patches import cv2 imshow
# Initializing necessary counters
one rupee = 0
two rupee = 0
# Reading the image
image = cv2.imread("/content/ME03-P1.jpeg")
# Display the original image
cv2 imshow(image)
# Converting the given image to grayscale
gray = cv2.cvtColor(image, cv2.COLOR BGR2GRAY)
# Display the grayscale image
cv2 imshow(gray)
# Applying Gaussian Blur to minimize noise and help in circle
detection
gray blurred = cv2.GaussianBlur(gray, (5, 5), 0)
# Display the blurred image
cv2 imshow(gray blurred)
# Using Hough Circles to detect the circles
circles = cv2.HoughCircles(
    gray blurred, cv2.HOUGH GRADIENT, dp=1, minDist=40, param1=130,
param2=35, minRadius=100, maxRadius=137
# If circles are found, iterating through them
if circles is not None:
    circles = np.uint16(np.around(circles))
    # Calculate the scaling factor (pixels to cm)
    image width pixels = 938
    real width cm = 10
    scale = real width cm / image width pixels
    diameters_cm = []
    for i in circles[0, :]:
        # Get circle parameters: the center and the radius
        center = (i[0], i[1])
        radius = i[2]
```

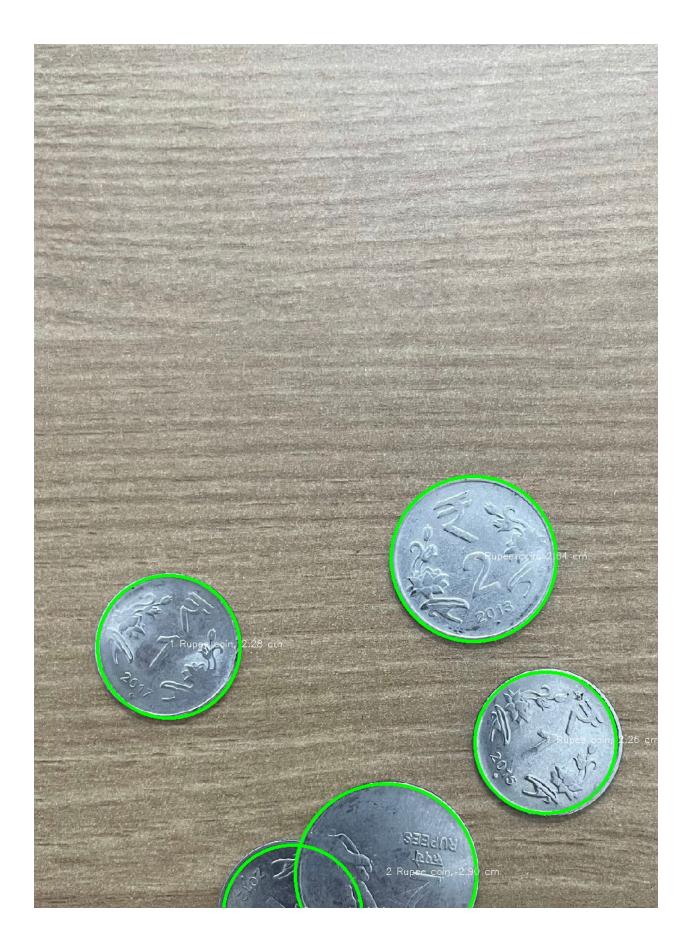
```
# Calculating the diameter in cm
        diameter cm = 2 * radius * scale
        diameters cm.append(diameter cm)
        # Printing the circle parameters and area
        print(f"Circle at {center} with diameter {2*radius} pixels,
which is approximately {diameter_cm:.2f} cm.")
        # Drawing the circle on the original image with its
denomination
        cv2.circle(image, center, radius, (0, 255, 0), 3)
        if diameter cm > 2.4: # Assuming 2 rupee coins are larger
than 2.4 cm in diameter
            two rupee += 1
            text = f"2 Rupee coin, {diameter cm:.2f} cm."
        else:
            one rupee += 1
            text = f"1 Rupee coin, {diameter cm:.2f} cm."
        font = cv2.FONT HERSHEY SIMPLEX
        font size = 0.46 # Reduced font size
        font thickness = 1 # Reduced font thickness
        font color = (255, 255, 255)
        cv2.putText(image, text, (i[0], i[1]), font, font_size,
font color, font thickness)
    # Displaying the result
    cv2 imshow(image)
    print(f"Number of 2 Rupee Coins: {two_rupee}")
    print(f"Number of 1 Rupee Coins: {one rupee}")
    print(f"Net Value: {(two rupee * 2) + (one rupee * 1)}")
    print(f"Diameters in cm: {diameters cm}")
else:
    print('No circles found.')
# Additional coin counting
if circles is not None:
    circles = np.round(circles[0, :]).astype("int")
    num coins = len(circles)
    print(f"Number of coins detected: {num coins}")
else:
    print("No circles (coins) were found.")
```







Circle at (528, 1248) with diameter 272 pixels, which is approximately 2.90 cm.
Circle at (660, 774) with diameter 248 pixels, which is approximately 2.64 cm.
Circle at (768, 1050) with diameter 212 pixels, which is approximately 2.26 cm.
Circle at (202, 906) with diameter 214 pixels, which is approximately 2.28 cm.
Circle at (388, 1308) with diameter 208 pixels, which is approximately 2.22 cm.



Number of 2 Rupee Coins: 2 Number of 1 Rupee Coins: 3

Net Value: 7

Diameters in cm: [2.899786780383795, 2.6439232409381663, 2.260127931769723, 2.281449893390192, 2.2174840085287846]

Number of coins detected: 5