Program:

# Step 1: Upload the image

from google.colab import files

uploaded = files.upload()

# Step 2: Read and process the uploaded image

import cv2

import matplotlib.pyplot as plt

# Get uploaded filename

filename = next(iter(uploaded))

# Read the image using OpenCV

image = cv2.imread(filename)

# Check if image was read successfully

if image is None:

print("❌ Error: Image could not be read. Please check the file.")

else:

# Step 3: Convert to grayscale

gray = cv2.cvtColor(image, cv2.COLOR\_BGR2GRAY)

# Step 4: Apply Canny edge detection

edges = cv2.Canny(gray, threshold1=100, threshold2=200)

# Step 5: Display the original and edge-detected images

plt.figure(figsize=(10, 5))

plt.subplot(1, 2, 1)

plt.title("Original Image")

plt.imshow(cv2.cvtColor(image, cv2.COLOR\_BGR2RGB))

plt.axis('off')

plt.subplot(1, 2, 2)

plt.title("Canny Edge Detection")

plt.imshow(edges, cmap='gray')

plt.axis('off')

plt.tight\_layout()

plt.show()

Output:

