Assignment 1

Question A

Apply both Canny Edge Detection and Sobel Edge Detection to only the face area of the image using a suitable threshold values. (5 Marks)

Canny Edge Detection

A person's back with a picture of a person on it

Description automatically generated with medium confidenceA picture containing text

Description automatically generatedA picture containing text

Description automatically generatedResulted output:

The images above are facial expressions for smile, angry, and normal.

Steps:

1. Call the previously taken picture.
2. Using face detection, detect and apply rectangle shape on the face.
3. Apply Canny onto the inside of the rectangle.
4. Repeat steps on other faces.

Sobel Detection

A person with a beard

Description automatically generated with low confidenceA picture containing text, person

Description automatically generatedA picture containing text, indoor, person

Description automatically generatedResulted output:

The images above are facial expressions for smile, angry, and normal.

Steps:

1. Call the previously taken picture.
2. Using face detection, detect and apply rectangle shape on the face.
3. Apply Sobel onto the inside of the rectangle.
4. Repeat steps on other faces.

Question B

B) Perform blurring of only faces in those images. (5 Marks)

Resulted output:

**A group of men

Description automatically generated with low confidence**

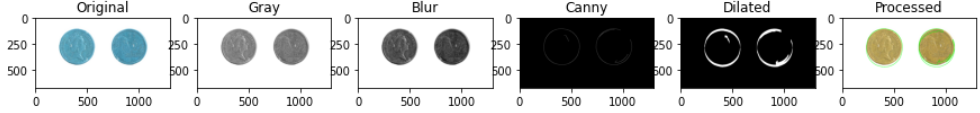
Steps:

1. Call the previously taken picture.
2. Using face detection, detect shape on the face.
3. Apply blurring onto face.
4. Repeat steps on other faces.

Question C

Calculating the number of coins in an image using contours. (5 Marks)

Resulted output:



Steps:

1. Call the saved picture of coins.
2. Apply grey, blurring, Canny, dilated, and contour.
3. From contour, print the number of coins from the detected contour.