DSA0210 Computer Vision with Open CV LAB Experiments

Experiment- 8: Perform Perspective Transformation on the image.

PROGRAM:

```
import cv2
import numpy as np
import matplotlib.pyplot as plt

# Read the input image
img = cv2.imread(r"D:\New Folder\input.jpeg")

# Check if image is loaded
if img is None:
    raise FileNotFoundError("Image not found. Check the file path.")

# Get image dimensions
height, width = img.shape[:2]

# Define four points in the original image
pts1 = np.float32([
    [50, 50],
    [width - 50, 50],
    [50, height - 50],
    [width - 50, height - 50]
])

# Define four points in the transformed image
pts2 = np.float32([
    [0, 0],
```

```
    [width, 0],
    [0, height],
    [width, height]
])

# Get perspective transformation matrix
perspective_matrix = cv2.getPerspectiveTransform(pts1, pts2)

# Apply perspective transformation
perspective_image = cv2.warpPerspective(img, perspective_matrix, (width, height))

# Display images
plt.figure(figsize=(8, 4))

plt.subplot(1, 2, 1)
plt.imshow(cv2.cvtColor(img, cv2.COLOR_BGR2RGB))
plt.title("Original Image")
plt.axis("off")

plt.subplot(1, 2, 2)
plt.imshow(cv2.cvtColor(perspective_image, cv2.COLOR_BGR2RGB))
plt.title("Perspective Transformed Image")
plt.axis("off")

plt.tight_layout()
plt.show()
```

OUTPUT: