14 question

```python
import cv2

import numpy as np


# Step 1: Read the image

image_path = r"C:\Users\SAIL\Downloads\CV\redtree.jpg"     # Replace with your image path

image = cv2.imread(image_path)


# Check if the image is loaded successfully

if image is None:

    print("Error: Could not load image.")

    exit()


# Step 2: Define the four points in the original image

# Points should be chosen from a rectangular or quadrilateral region

rows, cols, _ = image.shape

pts1 = np.float32([[100, 100], [400, 100], [100, 300], [400, 300]])


# Step 3: Define the corresponding points in the output image

# These points define where the original points should map to after transformation

pts2 = np.float32([[50, 150], [450, 150], [50, 400], [450, 400]])


# Step 4: Get the Perspective Transformation Matrix

# The matrix will map pts1 to pts2

matrix = cv2.getPerspectiveTransform(pts1, pts2)
```

Step 5: Apply the perspective transformation

warpPerspective will apply the transformation to the entire image

perspective_image = cv2.warpPerspective(image, matrix, (cols, rows))

Step 6: Display the original and transformed images

cv2.imshow("Original Image", image)

cv2.imshow("Perspective Transformed Image", perspective_image)

Wait for a key press and close all windows

cv2.waitKey(0)

cv2.destroyAllWindows()