18 question

```
import cv2

# Step 1: Load the image
image = cv2.imread(r"C:\Users\SAIL\Downloads\CV\book.jpg")    # Replace with your image path
if image is None:
    raise ValueError("Image not found!")

# Keep a copy of the original image for comparison
original = image.copy()

# Step 2: Define ROI (x, y, width, height)
x, y, w, h = 100, 100, 150, 150    # You can modify these values
roi = image[y:y+h, x:x+w]    # Crop the ROI

# Step 3: Define where to paste the ROI
paste_x, paste_y = 300, 200
if paste_y + h > image.shape[0] or paste_x + w > image.shape[1]:
    raise ValueError("ROI paste area exceeds image bounds!")

# Step 4: Paste the cropped ROI into a new location
image[paste_y:paste_y+h, paste_x:paste_x+w] = roi

# Step 5: Optional - draw rectangles to show source and destination
cv2.rectangle(image, (x, y), (x+w, y+h), (0, 255, 0), 2)    # Original ROI
```

```
cv2.rectangle(image, (paste_x, paste_y), (paste_x+w, paste_y+h), (0, 0, 255), 2)    # Pasted area


# Step 6: Resize both images to the same width for side-by-side display
display_width = 500
scale = display_width / original.shape[1]
resized_original = cv2.resize(original, (display_width, int(original.shape[0] * scale)))
resized_modified = cv2.resize(image, (display_width, int(image.shape[0] * scale)))

# Step 7: Stack side-by-side
combined = cv2.hconcat([resized_original, resized_modified])

# Step 8: Display result
cv2.imshow('Original Image (Left) | Modified Image with ROI (Right)', combined)
cv2.waitKey(0)
cv2.destroyAllWindows()
```