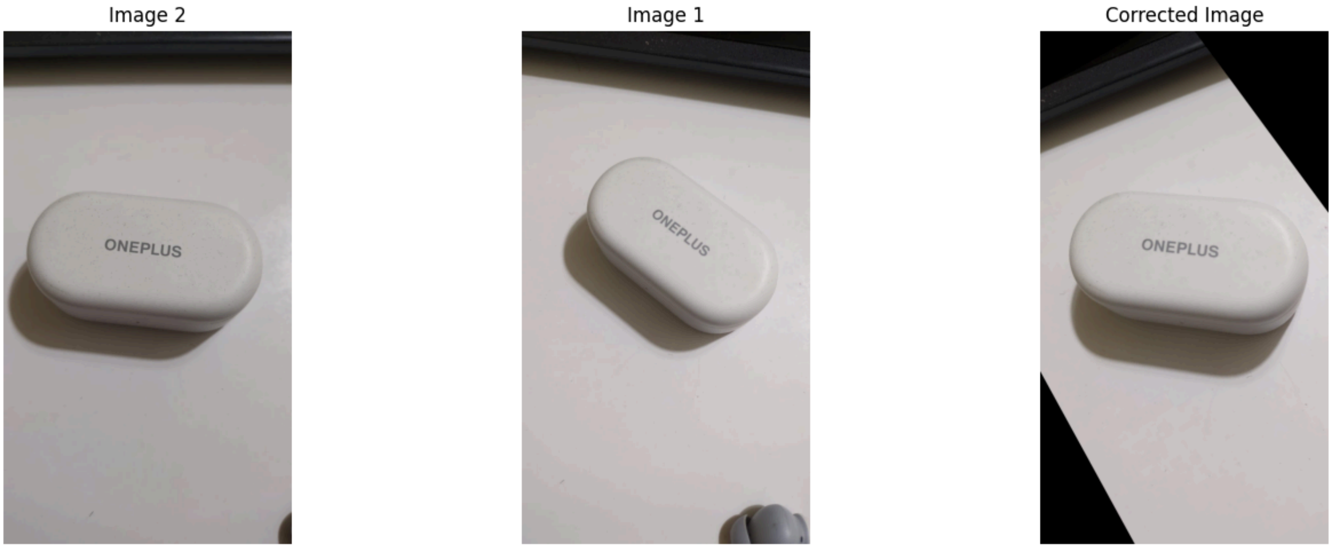
```
img1 = cv2.imread("/content/WhatsApp Image 2025-09-04 at 11.49.06 PM.jpeg")
img2 = cv2.imread("/content/WhatsApp Image 2025-09-04 at 11.39.20 PM.jpeg")
img1_gray = cv2.cvtColor(img1, cv2.COLOR_BGR2GRAY)
img2_gray = cv2.cvtColor(img2, cv2.COLOR_BGR2GRAY)
orb = cv2.ORB_create(400)
kp1, des1 = orb.detectAndCompute(img1_gray, None)
kp2, des2 = orb.detectAndCompute(img2_gray, None)
matcher = cv2.BFMatcher(cv2.NORM_HAMMING)
m1_2 = matcher.match(des1, des2)
m1_2 = sorted(m1_2, key=lambda x: x.distance)
ln = len(m1_2)
p1 = np.zeros((ln, 2))
p2 = np.zeros((ln, 2))
for i in range(ln):
    p1[i, :] = kp1[m1_2[i].queryIdx].pt
    p2[i, :] = kp2[m1_2[i].trainIdx].pt

H, mask = cv2.findHomography(p1, p2, cv2.RANSAC)
rows,cols=img1.shape[:2]
img1_reg = cv2.warpPerspective(img1,H,(cols,rows))
```

```
h, w, c = img2.shape
img_corrected = cv2.warpPerspective(img1, H, (w, h))
fig, axes = plt.subplots(1, 3, figsize=(15, 5))
axes[0].imshow(cv2.cvtColor(img2, cv2.COLOR_BGR2RGB))
axes[0].set_title('Image 2')
axes[0].axis('off')
axes[1].imshow(cv2.cvtColor(img1, cv2.COLOR_BGR2RGB))
axes[1].set_title('Image 1')
axes[1].axis('off')
axes[2].imshow(cv2.cvtColor(img_corrected, cv2.COLOR_BGR2RGB))
axes[2].set_title('Corrected Image')
axes[2].axis('off')
plt.tight_layout()
plt.show()
```



Conclusion - ORB detector is used to detect the key points and their corresponding descriptor on their reference and tilted image. Brute Force Matcher is used to identify the pairs. These pairs are used to determine the transformation matrix. The Transformation matrix is used to warp the image to generate the untilted image. The same is repeated for the 'bottle image'