

Quiz 1: Translation

Contributors include Keane Dalisay, Nel Alanan, and Prince Alexander Malatuba.

Cheers 🍀!

Translate Image Function

```
def translate(img, Bx_o, By_o, Tx, Ty):  
    width = img.shape[1]  
    hght = img.shape[0]  
  
    Bx_n = Bx_o + Tx  
    By_n = By_o + Ty  
  
    m_translation = np.float32([  
        [1, 0, Bx_n],  
        [0, 1, By_n],  
        [0, 0, 1]])  
  
    translated_img = cv.warpPerspective(img, m_translation, (min(width * 2, 500),  
min(hght * 2, 500)))  
    return translated_img
```

Function to handle multiple images

```
def translateImages(imgs):  
    orig_img = cv.imread(imgs[0])  
  
    cv.imshow('Original Image', orig_img)  
    cv.waitKey(0)  
  
    orig_img_width = orig_img.shape[1]  
    orig_img_hght = orig_img.shape[0]  
  
    comb_img = orig_img  
  
    Bx = 20  
    By = 50  
    Tx = 60  
    Ty = 70  
  
    for i in range(len(imgs)):  
        trgt_img = cv.imread(imgs[i])  
  
        manip_img = translate(trgt_img, Bx, By, Tx, Ty)  
  
        cv.imshow("Manipulated Image", manip_img)
```

```
cv.waitKey(0)

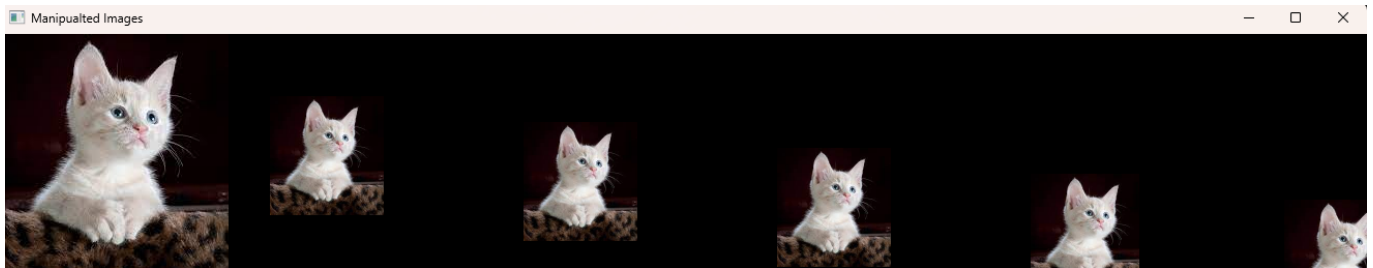
Bx += 25
By += 25
Tx += 25
Ty += 25

resized_img = cv.resize(manip_img,
                        (orig_img_wdth, orig_img_hght),
                        interpolation = cv.INTER_AREA)

comb_img = np.concatenate((comb_img, resized_img), axis=1)

cv.imshow("Manipualted Images", comb_img)
cv.waitKey(0)
```

Result



Result image of translation. Original image to the left and its consecutive manipulations to the right.