READ AND WRITE AN IMAGE

AIM

To write a python program using OpenCV to do the following image manipulations.

1. Read, display, and write an image.
2. Access the rows and columns in an image.
3. Cut and paste a small portion of the image.

Software Required:

Anaconda - Python 3.7

Algorithm:

Step1:

Choose an image and save it as a filename.jpg

Step2:

Use imread(filename, flags) to read the file.

Step3:

Use imshow(window_name, image) to display the image.

Step4:

Use imwrite(filename, image) to write the image.

Step5:

End the program and close the output image windows.

Program:

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i) Read and display the image

```
import cv2

img = cv2.imread("aot.png")
cv2.imshow("read_pic",img)
cv2.waitKey(0)
```

ii) To write the image

```
cv2.imwrite("write_pic.png",img)
```

iii) Find the shape of the Image

```
print(img.shape)
```

iv) To access rows and columns

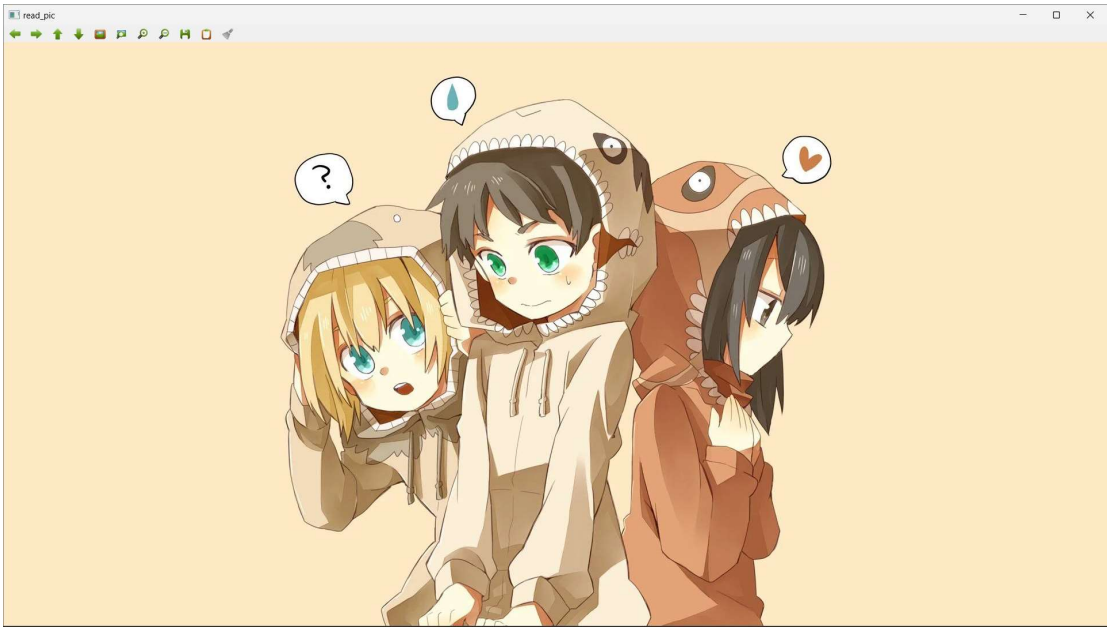
```
for i in range(350,400):
    for j in range(800,1000):
        img[i][j] = [104, 104, 104]
cv2.imshow("row_pic.png",img)
cv2.waitKey(0)
```

v) To cut and paste portion of image

```
img[700:1000,600:900] = img[300:600,1100:1400]
cv2.imshow("cut_pic.png",img)
cv2.waitKey(0)
```

Output:

i) Read and display the image



ii) Write the image

iii) Shape of the Image

```python
# Find the shape of the Image

print(img.shape)
```

Python

```
(1080, 1920, 3)
```

iv) Access rows and columns

v) Cut and paste portion of image

Result:

Thus the images are read, displayed, and written successfully using the python program.