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| Task ID | Task Name | Completed rate |
| 1 | Adjust Brightness | v |
| 2 | Adjust Contrast | V |
| 3 | Flipping image in horizonal / vertical mode | V |
| 4 | Converting image into gray/sepia format. | V |
| 5 | Blur/Detail | X |
| 6 | Cutting image by given size | V |
| 7 | Cutting image in round | v |

II. Ý tưởng thực hiện.

1. Adjust Brightness.

* Adding (R,G,B) of the pixel of the image array with –brightness factor—to increase or descrease the brightness of the image

1. Adjust Contrast

* Mutiplying (R,G,B) of the pixel of the image array with the –contrast factor—to adjust the contrast of the image.

1. Flipping image

* Swap left side of the image array with the right side (n/2 vector from the left/right of the array size n)(vector n🡨🡪vector 1,vector (n-1)🡨🡪vector2,…..vector(n/2)🡨🡪vector((n/2)-1) by vertical)
* Swap upper side of the image array with the lower side (n/2 vector from the upper/lower of the array size n)(vector n🡨🡪vector 1,vector(n1)🡨🡪vector2,…..vector(n/2)🡨🡪vector((n/2)-1) by horizonal)

1. Converting image into gray/sepia

* Define new image in type “L” with the same size of the give image, setting each pixel of the new image array = average of the (R,G,B) of each pixel of given image.
* Define new image in type “RBG” with the same size of the give image, setting each pixel of the new image array newR = 0.393R
* newR = int(0.393 \* r + 0.769 \* g + 0.189 \* b)
* newG = int(0.349 \* r + 0.686 \* g + 0.168 \* b)
* newB = int(0.272 \* r + 0.534 \* g + 0.131 \* b)
* newR = min(255,newR)