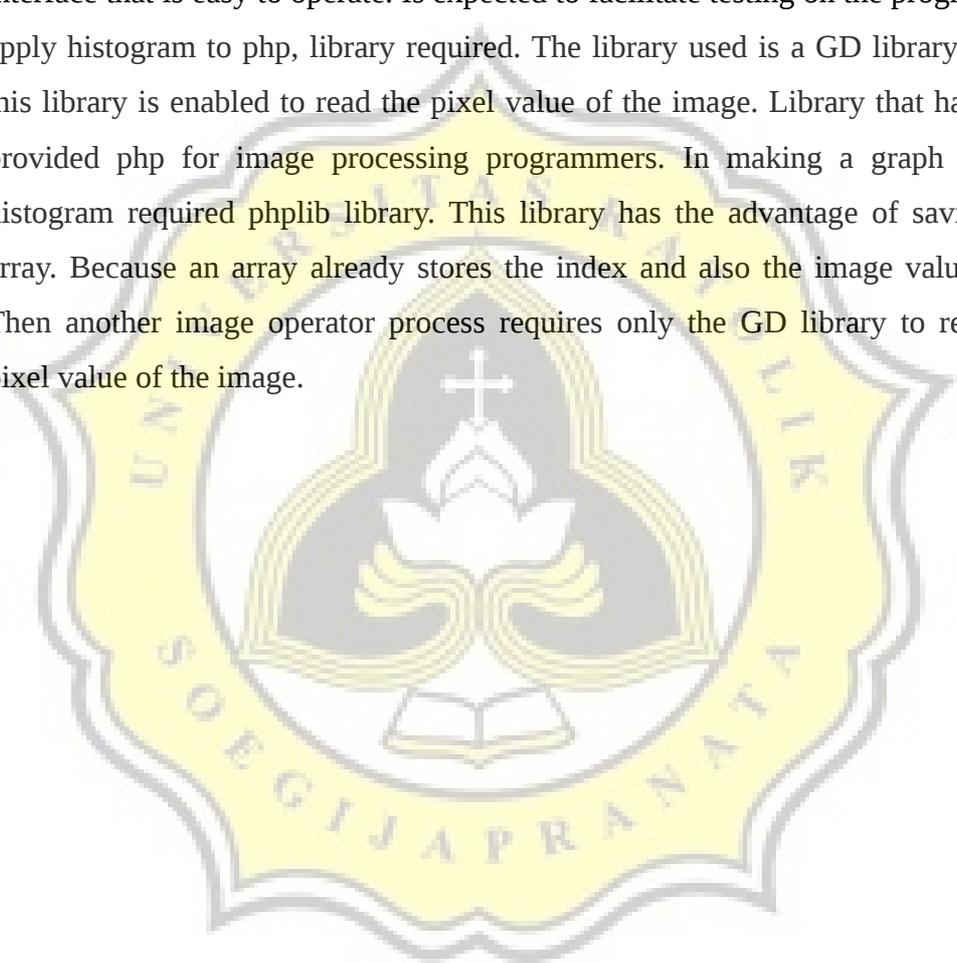


CHAPTER 4

ANALYSIS AND DESIGN

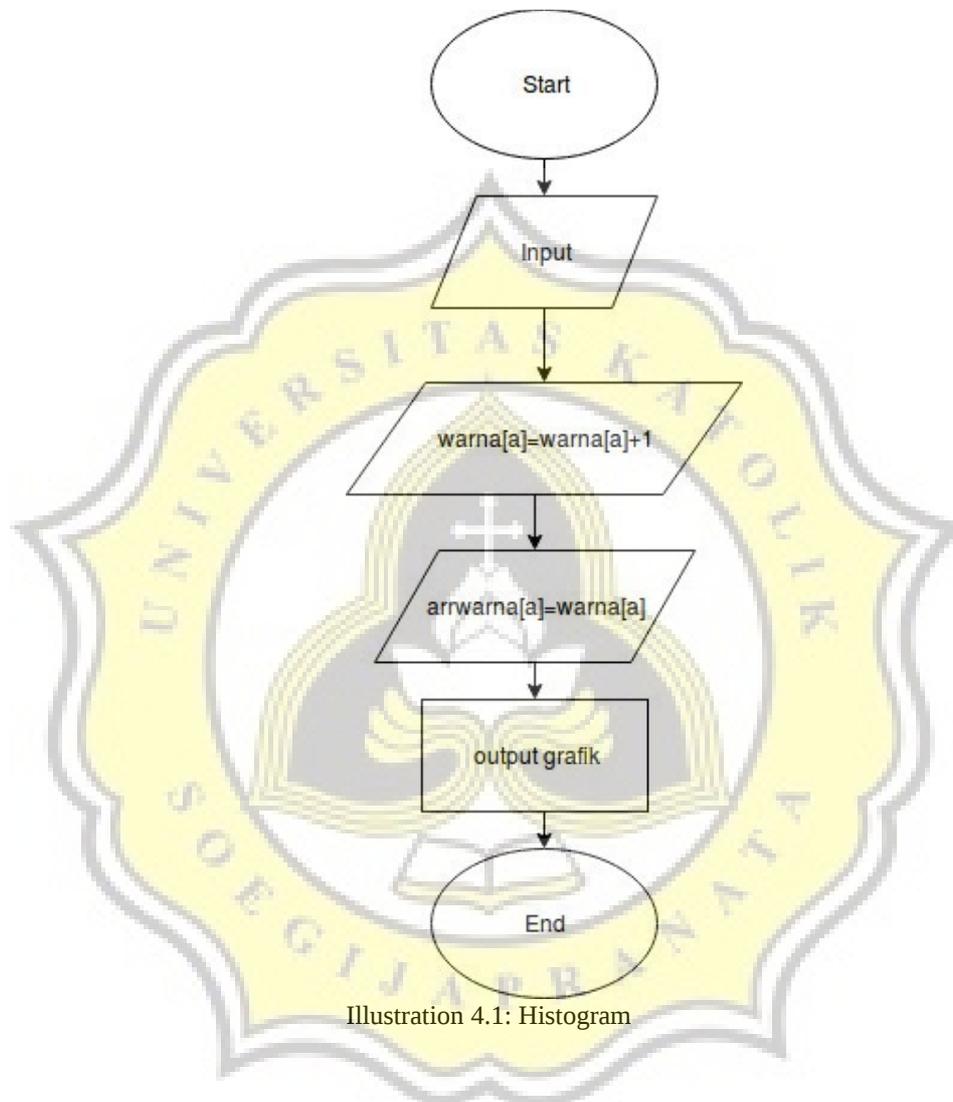
4.1 Analysis

On this project, using the php programming language. Because php has an interface that is easy to operate. Is expected to facilitate testing on the program. To apply histogram to php, library required. The library used is a GD library where this library is enabled to read the pixel value of the image. Library that has been provided php for image processing programmers. In making a graph on the histogram required phplib library. This library has the advantage of saving the array. Because an array already stores the index and also the image value data. Then another image operator process requires only the GD library to read the pixel value of the image.



4.2 Desain

1. Histogram



Flow chart histogram, on the input section flows create an array of six. Which is used to store red, green, and blue values. After that enter the same pixel value, so that will be displayed on the graph is the number of pixel values equal to the range of data 0-255. To display graphs need an array for which stores the number of pixel values.

2. Cropping Image

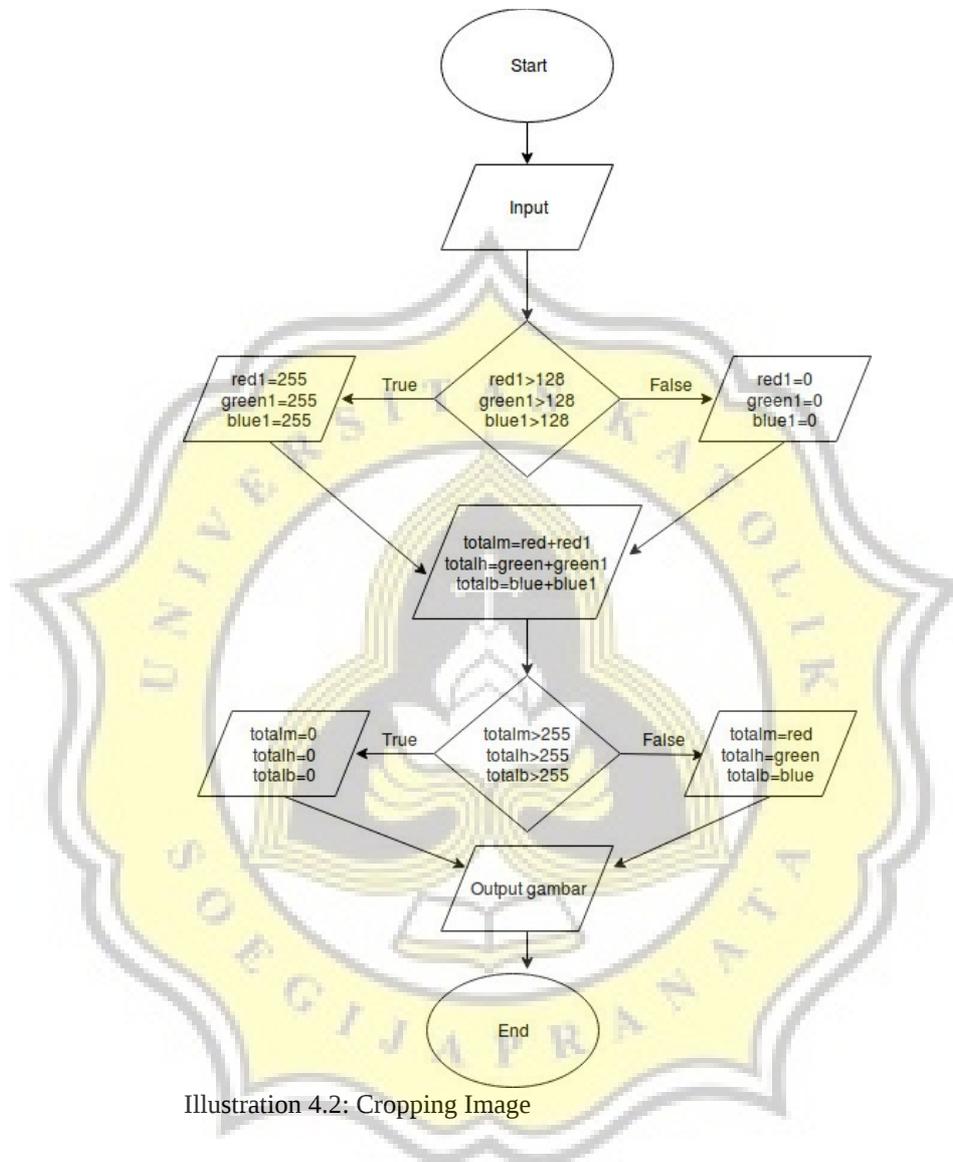


Illustration 4.2: Cropping Image

Flow chart cropping image, on the input section flows create an array of nine. The stored data is the value of the two images because the name of the array is distinguished. The array is used to store values of red, green, and blue. The second image is the default but the value must be rounded. The comparison process with the middle value of 128. After the second image value to 0 and 255 is done the sum of the first and second image values. The sum result is entered into the array: totalm, totalh, and totalb. After summing the results compared if the

value is greater than 255 then set the upper limit of 255, and if the value is less than 255 then the new value is set the value of the first image. The total array already stores the processed value. The final result will display an image with the sum of pixels added.

3. Invert

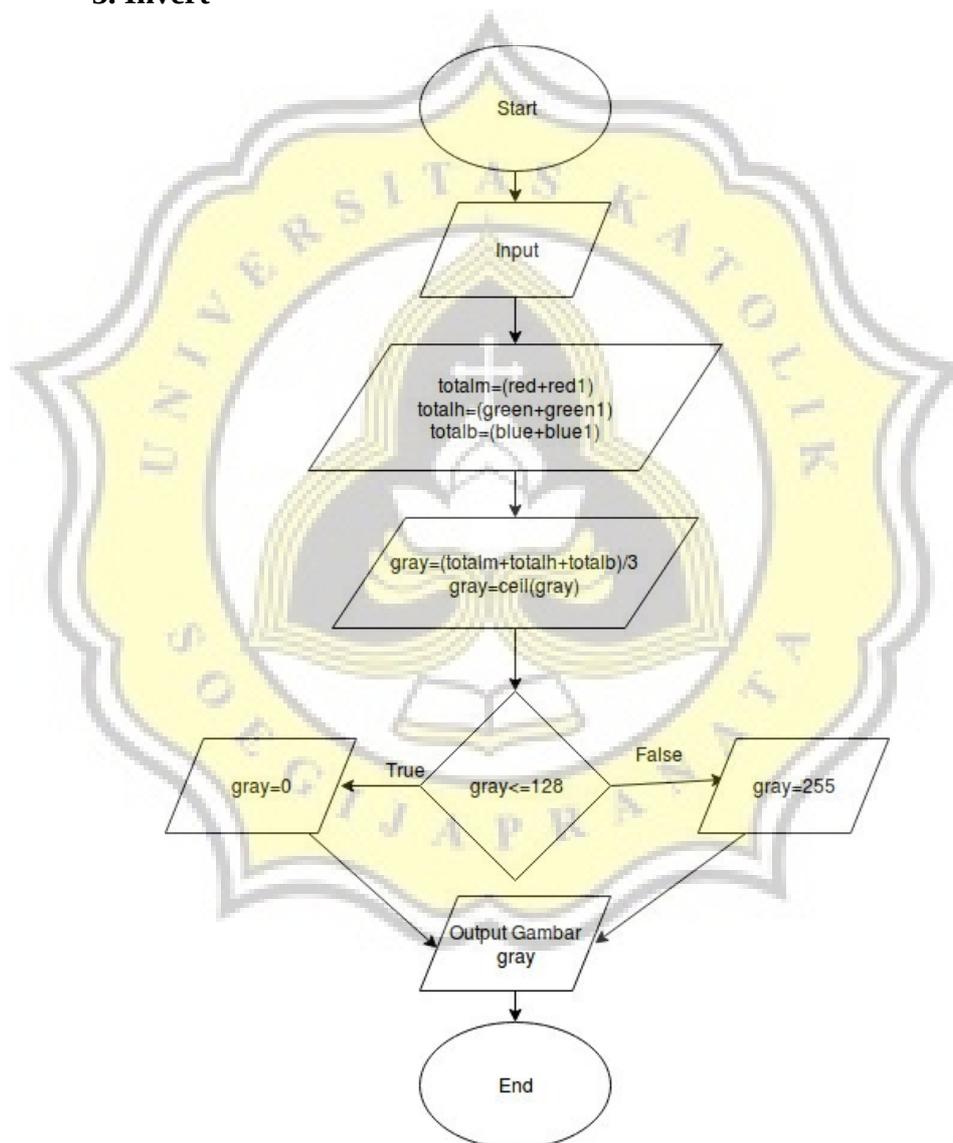
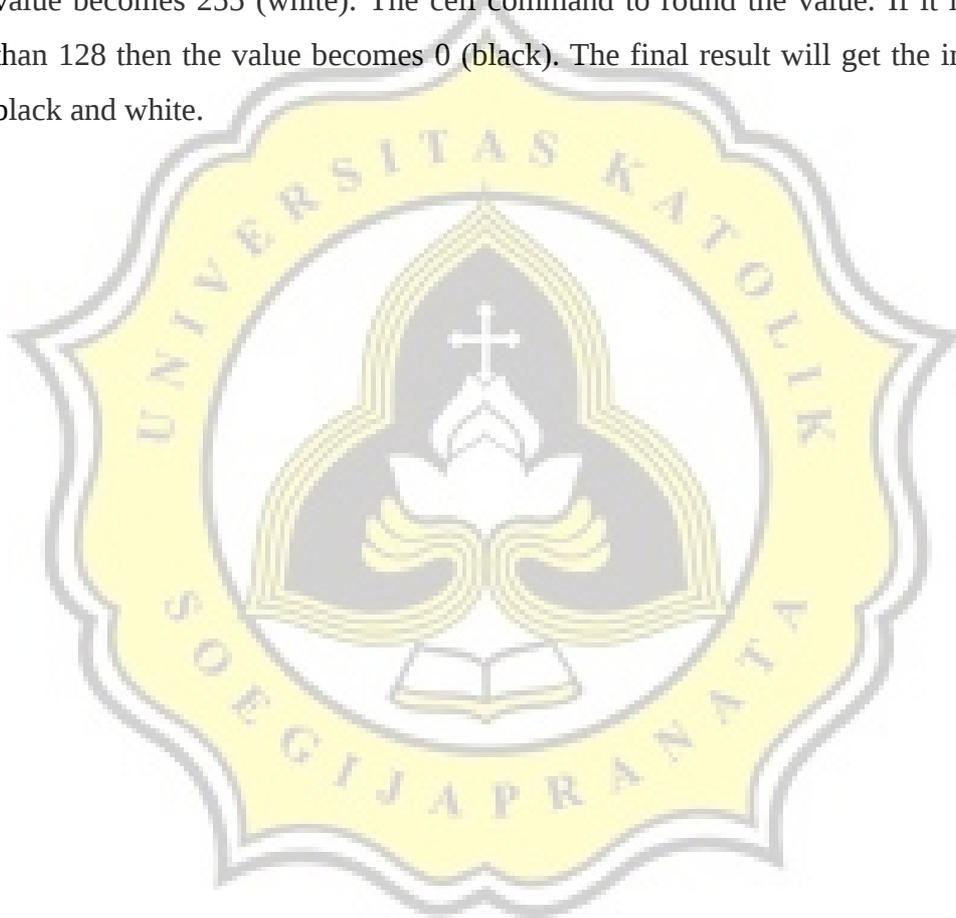


Illustration 4.3: Invert

Invert Flow chart, on the input section flows create as many as ten arrays. The stored data is the value of the two images because the name of the array is

distinguished. The array is used to store values of red, green, and blue. Color image input will produce black and white output because it takes a gray array. After the data is entered into the array, the value in the first image is added to the value in the second image. After the sum value is converted to gray by formula. After the gray color is compared if the gray value is smaller than 128 then the value becomes 255 (white). The ceil command to round the value. If it is larger than 128 then the value becomes 0 (black). The final result will get the image in black and white.



4. Binary OR and AND

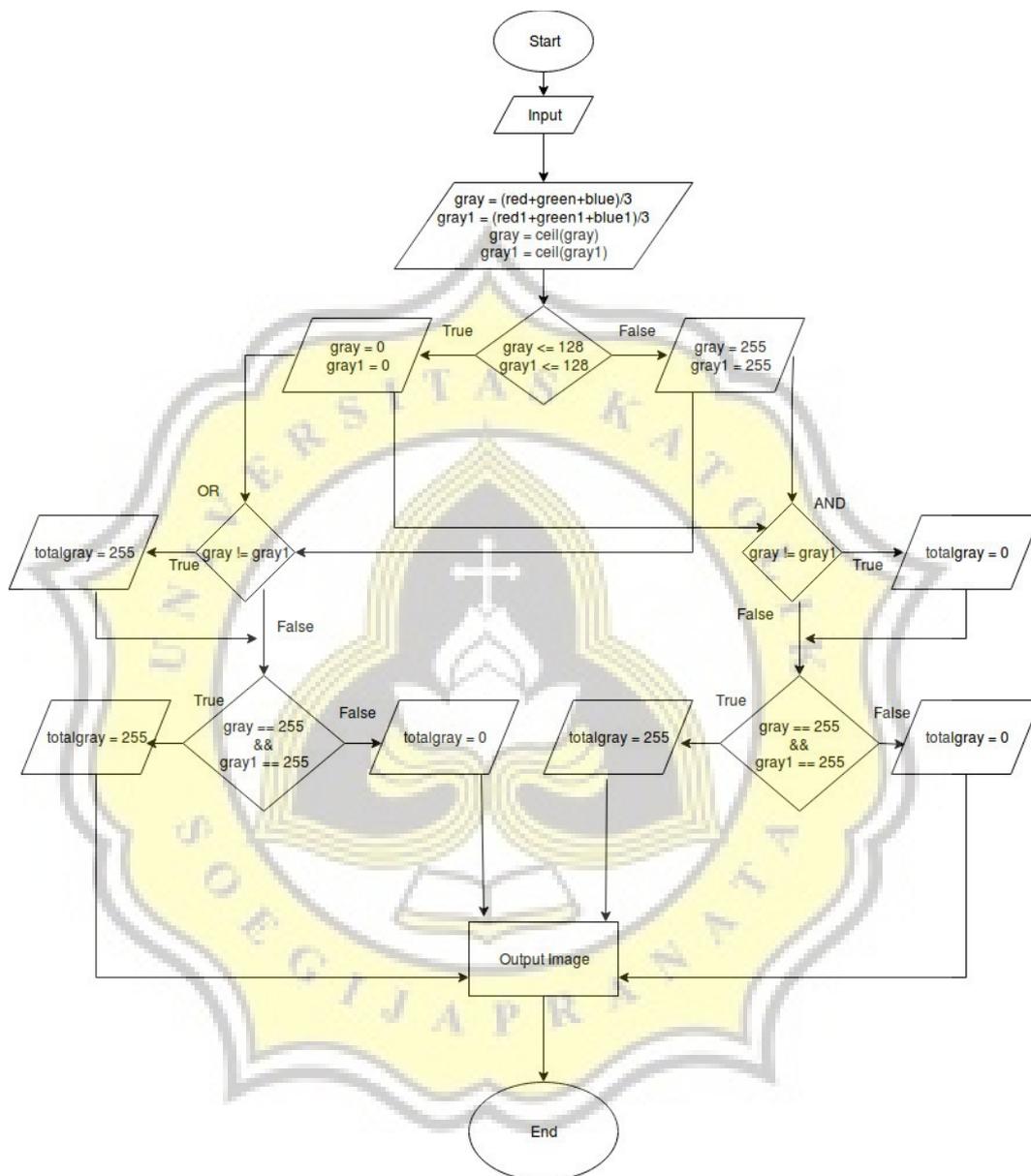
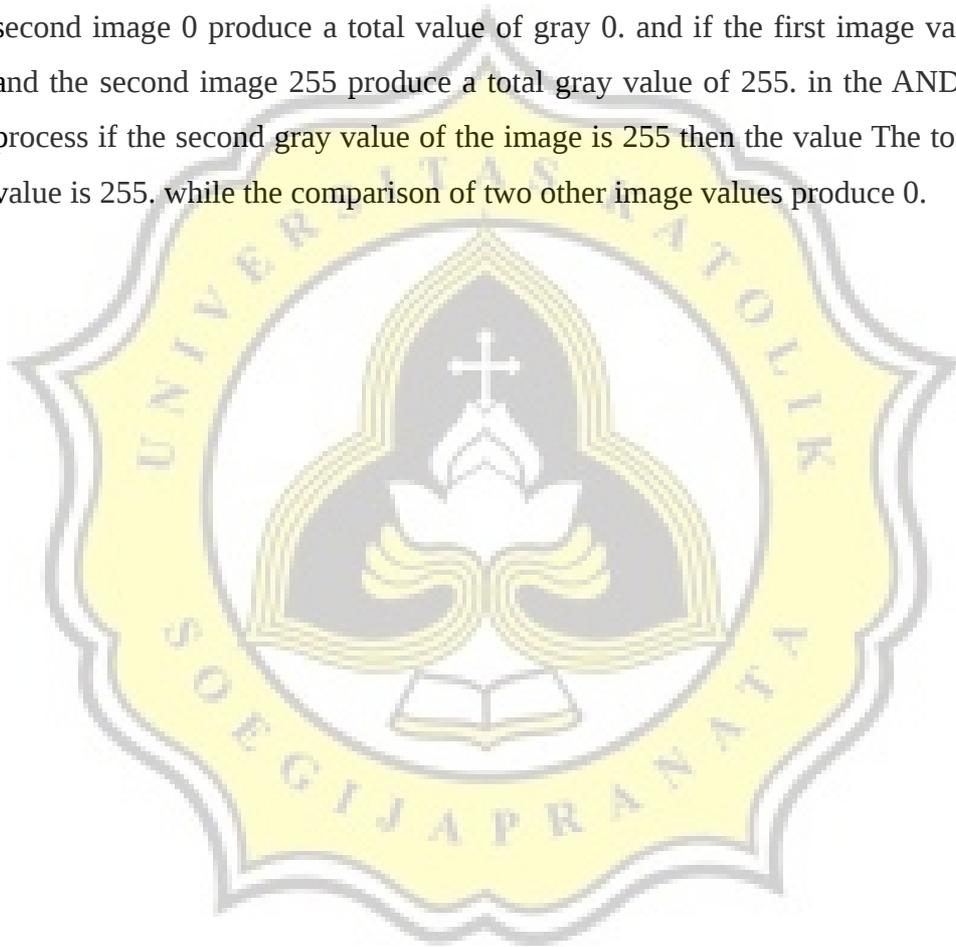


Illustration 4.4: Binary OR and AND

Flow chart Binary OR and AND , in the input sections make an array of nine. Created arrays are used to support red, green, and blue values. After the color is accommodated in grayscale processing. The grayscale array = (red + green + blue) / 3 formula will produce a gray value. The gray color is compared if

the value is smaller than the middle value of 128 then the gray value becomes 0, if the value is greater than 128 then the gray value becomes 255. after the value is compared to enter the binary OR and AND process. In the OR binary process if the gray value in the first image is 255 and the second image is 0, then the total gray 255 value occurs on the reverse. Whereas the first image value 0 and the second image 0 produce a total value of gray 0. and if the first image value 255 and the second image 255 produce a total gray value of 255. in the AND binary process if the second gray value of the image is 255 then the value The total gray value is 255. while the comparison of two other image values produce 0.



5. Contrast

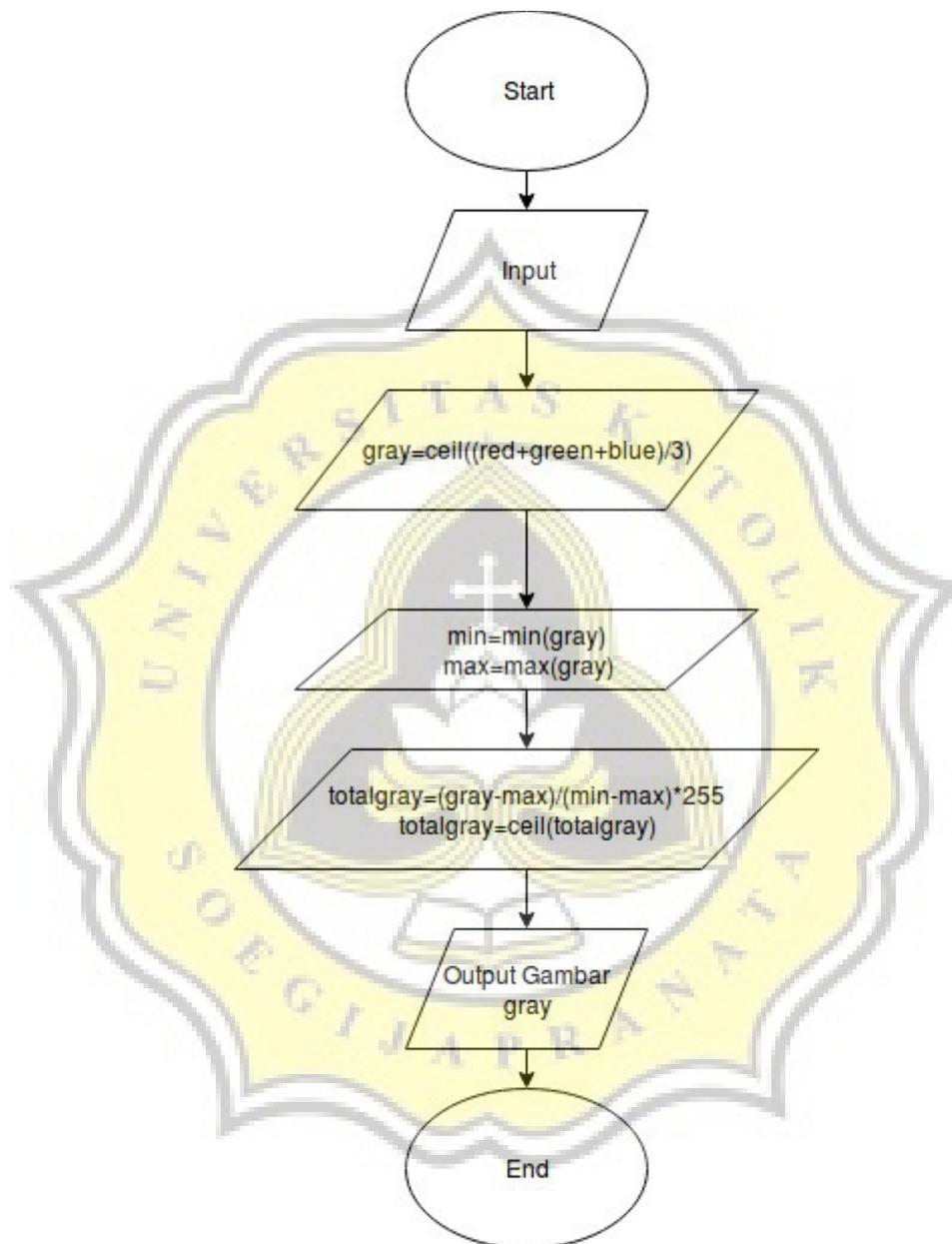


Illustration 4.5: Contrast

Flow chart contrast, on the input section flows create an array of seven. Arrays are used to store red, green, and blue values. Once inserted into the array is processed and converted to grayscale value. Of the gray value is searched minimum and maximum value. Processing the contrast requires a formula, with

the formula value = (gray value - maximum) / (minimum - maximum) * 255.
After the value was inserted into the formula obtained a new gray value. Rounded up by ceil command.

