Name: ROTHA Dapravith

ID: e20190915

Group: I5 GIC(B)

Assignment Lesson1

1) Calculate the Euclidean Distance? If we have $x1=2$, $x2=14$, $y1=3$, $y2=12$.

2) In your opinion, if we would like to convert from RGB image to Gray image, what formula should we use? (write the formula from your own mind)

Answers

1). Calculate the Euclidean Distance

From the following hypothesis: If we have $x1=2$, $x2=14$, $y1=3$, $y2=12$.

By using Euclidean Distance's formula: $D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

In case we replace the number for Euclidean Distance's formula:

$$D = \sqrt{(14 - 2)^2 + (12 - 3)^2}$$

$$D = \sqrt{(12)^2 + (9)^2}$$

$$D = \sqrt{144 + 81} = \sqrt{225} = 15$$

Therefore, Euclidean Distance D = 15 Unit

2). If we would like to convert an RGB image to a gray image using the below formula:

Gray Scale Value = 0.299 * Red + 0.587 * Green + 0.114 * Blue

In my opinion, I think this formula is used for calculating the gray scale value for each pixel in the image by taking the weighted sum of the red, green, and blue for each color channel. This weighted (0.299) is represented by the red color, the weighted (0.587) is represented by the green color, and the weighted (0.114) is represented by the blue color. All these three values are frequently used in image processing to generate or utilize this formula with different colors to correct the grayscale representations.