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Assignment Image Processing

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

We have D = √((x2 - x1)^2 + (y2 - y1)^2)

D = √((14 - 2)^2 + (12 - 3)^2)

= √(12^2 + 9^2)

= √(144 + 81)

= √225

= 15

Therefore, the Euclidean distance between the points (2, 3) and (14, 12) is 15.

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

* To convert an RGB image to a Grey image, you can use several formulas, but one of the most common and straightforward methods is the luminosity method. This method takes into account the human eye's sensitivity to different colors. The formula for the luminosity method is as follows:
* Grayscale value = 0.299 × Red + 0.587 × Green + 0.114 × Blue

In this formula, the coefficients (0.299, 0.587, and 0.114) represent the sensitivity of the human eye to the red, green, and blue colors, respectively. You can apply this formula to each pixel in the RGB image to obtain the corresponding grayscale value to get Grey image.