

2). Hitung konversi citra biner dengan T yang telah ditentukan, dimana
 $T = 110$

213, 80, 155	24, 60, 122	212, 9, 19
211, 200, 155	153, 155, 154	8, 8, 100
213, 222, 12	15, 25, 155	143, 100, 123

Jawab :

Rumus thresholding : $g(x,y) = \begin{cases} 1, & \text{jika } f(x,y) \geq 110 \\ 0, & \text{jika } f(x,y) < 110 \end{cases}$

1. Pixel (0,0) = $(213, 80, 155) \times (0,299, 0,587, 0,114) =$
 $= (0,299 \times 213) + (0,587 \times 80) + (0,114 \times 155)$
 $= 63,687 + 46,96 + 17,67$
 $= 128,31 \rightarrow 1$

2. Pixel (0,1) = $(24, 60, 122) \times (0,299, 0,587, 0,114) =$
 $= (0,299 \times 24) + (0,587 \times 60) + (0,114 \times 122)$
 $= 7,176 + 35,22 + 13,908$
 $= 56,304 \rightarrow 0$

3. Pixel (0,2) = $(212, 9, 19) \times (0,299, 0,587, 0,114) =$
 $= (0,299 \times 212) + (0,587 \times 9) + (0,114 \times 19)$
 $= 63,388 + 5,283 + 2,166$
 $= 70,83 \rightarrow 0$

4. Pixel (1,0) = $(211, 200, 155) \times (0,299, 0,587, 0,114) =$
 $= (0,299 \times 211) + (0,587 \times 200) + (0,114 \times 155)$
 $= 63,089 + 117,4 + 17,67$
 $= 198,15 \rightarrow 1$

5. Pixel (1,1) = $(153, 155, 154) \times (0,299, 0,587, 0,114) =$
 $= (0,299 \times 153) + (0,587 \times 155) + (0,114 \times 154)$
 $= 45,747 + 90,985 + 17,556$
 $= 154,28 \rightarrow 1$

$$6. \text{Pixel}(1,2) = (8, 8, 100)$$

$$= (0,299 \times 8) + (0,587 \times 8) + (0,114 \times 100)$$

$$= 2,392 + 4,696 + 11,4$$

$$= 18,48 \rightarrow 0$$

$$7. \text{Pixel}(2,0) = (213, 222, 12)$$

$$= (0,299 \times 213) + (0,587 \times 222) + (0,114 \times 12)$$

$$= 63,687 + 130,314 + 1,368$$

$$195,369 \rightarrow 1$$

$$8. \text{Pixel}(2,1) = (15, 25, 155)$$

$$= (0,299 \times 15) + (0,587 \times 25) + (0,114 \times 155)$$

$$= 4,485 + 14,675 + 17,67$$

$$= 36,83 \rightarrow 0$$

$$9. \text{Pixel}(2,2) = (143, 100, 123)$$

$$= (0,299 \times 143) + (0,587 \times 100) + (0,114 \times 123)$$

$$= 42,757 + 58,7 + 14,022$$

$$= 115,47 \rightarrow 0$$

Hasil akhir konversi citra biner :

1	0	0
1	1	0
1	0	1

$$(0,299 \times 100) + (0,587 \times 100) + (0,114 \times 100) =$$

$$29,9 + 58,7 + 11,4 =$$

$$99,99 \rightarrow 0$$

$$0 \rightarrow 0$$

$$(0,299 \times 100) + (0,587 \times 100) + (0,114 \times 100) =$$

$$29,9 + 58,7 + 11,4 =$$

$$99,99 \rightarrow 0$$

$$0 \rightarrow 0$$

$$(0,299 \times 100) + (0,587 \times 100) + (0,114 \times 100) =$$

$$29,9 + 58,7 + 11,4 =$$

$$99,99 \rightarrow 0$$

$$0 \rightarrow 0$$