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SOAL 3

- Buat index setiap pixel berdasarkan color palette

213, 80, 155	24, 60, 122	219, 9, 19
211, 200, 155	153, 155, 159	8, 8, 100
213, 222, 12	15, 25, 155	143, 100, 123

- Color Palette

Warna 0 : Hitam (R6B : 0, 0, 0)

Warna 1 : Merah (R6B : 255, 0, 0)

Warna 2 : Hijau (R6B : 0, 255, 0)

Warna 3 : Biru (R6B : 0, 0, 255)

RUMUS : $JARAK = \sqrt{(R1 - R2)^2 + (G1 - G2)^2 + (B1 - B2)^2}$

• pixel (213, 80, 155) :
• Hitam $\sqrt{(213-0)^2 + (80-0)^2 + (155-0)^2}$
 $= \sqrt{45.369 + 6400 + 24.025}$
 $= \sqrt{75.794} = 275,30$

• merah (255, 0, 0) = $\sqrt{(213-255)^2 + (80-0)^2 + (155-0)^2}$
 $= \sqrt{1764 + 6400 + 24.025}$
 $= \sqrt{32.189} = 179,41 //$

• Hijau (0, 255, 0) = $\sqrt{(213-0)^2 + (80-255)^2 + (155-0)^2}$
 $= \sqrt{45.369 + 30.625 + 24.025}$
 $= \sqrt{100.019} = 316,25$

• Biru (0, 0, 255) = $\sqrt{(213-0)^2 + (80-0)^2 + (155-255)^2}$
 $= \sqrt{45.369 + 6400 + 10.000}$
 $= \sqrt{61.769} = 248,51$

Warna terdekat : Merah



• pixel (29, 60, 122)

• Hitam = $\sqrt{(29-0)^2 + (60-0)^2 + (122+0)^2} = \sqrt{576 + 3600 + 14884}$
 $= \sqrt{19.060} = 138.05 //$

• Merah = $\sqrt{(29-255)^2 + (60-0)^2 + (122+0)^2} = \sqrt{53.361 + 3600 + 14884}$
 $= \sqrt{71.845} = 268.039$

• Hijau = $\sqrt{(29-0)^2 + (60-255)^2 + (122+0)^2} = \sqrt{576 + 38025 + 14884}$
 $= \sqrt{53.485} = 231.26$

• Biru = $\sqrt{(29-0)^2 + (60-0)^2 + (122-255)^2} = \sqrt{576 + 3600 + 17689}$
 $= \sqrt{21.685} = 147.25$

Warna terdekat = Hitam

• pixel (219, 9, 19)

• Hitam = $\sqrt{(219-0)^2 + (9-0)^2 + (19-0)^2} = \sqrt{47961 + 81 + 361}$
 $= \sqrt{48403} = 220.006$

• Merah = $\sqrt{(219-255)^2 + (9-0)^2 + (19-0)^2} = \sqrt{1296 + 81 + 361}$
 $= \sqrt{1738} = 41.6 //$

• Hijau = $\sqrt{(219-0)^2 + (9-255)^2 + (19-0)^2} = \sqrt{47961 + 60516 + 361}$
 $= \sqrt{108.838} = 329.986$

• Biru = $\sqrt{(219-0)^2 + (9-0)^2 + (19-255)^2} = \sqrt{47961 + 81 + 55696}$
 $= \sqrt{103.738} = 322.083$

Warna terdekat = Merah

• pixel (211, 200, 155)

• Hitam = $\sqrt{(211-0)^2 + (200-0)^2 + (155-0)^2} = \sqrt{44521 + 40.000 + 24.025}$
 $= \sqrt{108.546} = 329.46$

• Merah = $\sqrt{(211-255)^2 + (200-0)^2 + (155-0)^2} = \sqrt{1936 + 40.000 + 24.025}$
 $= \sqrt{65961} = 256.82 //$

• Hijau = $\sqrt{(211-0)^2 + (200-255)^2 + (155-0)^2} = \sqrt{44521 + 3025 + 24.025}$
 $= \sqrt{71571} = 267.527$

• Biru = $\sqrt{(211-0)^2 + (200-0)^2 + (155-255)^2} = \sqrt{44521 + 40.000 + 10.000}$
 $= \sqrt{94521} = 307.49$

Warna terdekat = Merah



• Pixel (153, 155, 154)

• Hitam = $\sqrt{(153-0)^2 + (155-0)^2 + (154-0)^2} = \sqrt{23409 + 24025 + 23716}$
 $= \sqrt{71150} = 266,736$

• Merah = $\sqrt{(153-255)^2 + (155-0)^2 + (154-0)^2} = \sqrt{10909 + 24025 + 23716}$
 $= \sqrt{58195} = 241,132$

• Hijau = $\sqrt{(153-0)^2 + (155-255)^2 + (154-0)^2} = \sqrt{23409 + 10.000 + 23716}$
 $= \sqrt{57125} = 239,08 //$

• Biru = $\sqrt{(153-0)^2 + (155-0)^2 + (154-255)^2} = \sqrt{23409 + 24025 + 10201}$
 $= \sqrt{57.635} = 240,07$

Warna Terdekat = 'Hijau'

• Pixel (8, 8, 100)

• Hitam = $\sqrt{(8-0)^2 + (8-0)^2 + (100-0)^2} = \sqrt{64 + 64 + 10.000}$
 $= \sqrt{10.128} = 100,63 //$

• Merah = $\sqrt{(8-255)^2 + (8-0)^2 + (100-0)^2} = \sqrt{61.009 + 64 + 10.000}$
 $= \sqrt{71.073} = 266,59$

• Hijau = $\sqrt{(8-0)^2 + (8-255)^2 + (100-0)^2} = \sqrt{64 + 61.009 + 10.000}$
 $= \sqrt{71.073} = 266,59$

• Biru = $\sqrt{(8-0)^2 + (8-0)^2 + (100-255)^2} = \sqrt{64 + 64 + 24.025}$
 $= \sqrt{24.153} = 155,41$

Warna Terdekat = Hitam

• Pixel (213, 222, 12)

• Hitam = $\sqrt{(213-0)^2 + (222-0)^2 + (12-0)^2} = \sqrt{45369 + 49284 + 144}$
 $= \sqrt{97.797} = 312,72$

• Merah = $\sqrt{(213-255)^2 + (222-0)^2 + (12-0)^2} = \sqrt{1764 + 49284 + 144}$
 $= \sqrt{51.192} = 226,256$

• Hijau = $\sqrt{(213-0)^2 + (222-255)^2 + (12-0)^2} = \sqrt{45369 + 1089 + 144}$
 $= \sqrt{46.602} = 215,87 //$

• Biru = $\sqrt{(213-0)^2 + (222-0)^2 + (12-255)^2} = \sqrt{45369 + 49284 + 59049}$
 $= \sqrt{153.702} = 392,098$

Warna Terdekat = Hijau



• pixel (15, 25, 155)

• Hitam = $\sqrt{(15-0)^2 + (25-0)^2 + (155-0)^2} = \sqrt{225 + 625 + 24025}$
 $= \sqrt{24875} = 157,71$

• Merah = $\sqrt{(15-255)^2 + (25-0)^2 + (155-0)^2} = \sqrt{57600 + 625 + 24025}$
 $= \sqrt{82250} = 286,79$

• Hijau = $\sqrt{(15-0)^2 + (25-255)^2 + (155-0)^2} = \sqrt{225 + 52900 + 24025}$
 $= \sqrt{77150} = 277,75$

• Biru = $\sqrt{(15-0)^2 + (25-0)^2 + (155-255)^2} = \sqrt{225 + 625 + 10000}$
 $= \sqrt{10850} = 104,169 //$

Warna Terdekat : Biru

• pixel (143, 100, 123)

• Hitam = $\sqrt{(143-0)^2 + (100-0)^2 + (123-0)^2} = \sqrt{20449 + 10000 + 15129}$
 $= \sqrt{45578} = 213,496$

• Merah = $\sqrt{(143-255)^2 + (100-0)^2 + (123-0)^2} = \sqrt{12544 + 10000 + 15129}$
 $= \sqrt{37673} = 194,095 //$

• Hijau = $\sqrt{(143-0)^2 + (100-255)^2 + (123-0)^2} = \sqrt{20449 + 24025 + 15129}$
 $= \sqrt{59603} = 244,137$

• Biru = $\sqrt{(143-0)^2 + (100-0)^2 + (123-255)^2} = \sqrt{20449 + 10000 + 17429}$
 $= \sqrt{47878} = 218,81$

Warna Terdekat Merah

213,80,155	Merah	255,0,0
24,60,122	Hitam	0,0,0
27,9,19	Merah	255,0,0
211,200,155	Merah	255,0,0
153,155,154	Hijau	0,255,0
8,8,100	Hitam	0,0,0
213,222,12	Hijau	0,255,0
15,25,155	Biru	0,0,255
143,100,123	Merah	255,0,0