ນາງ ໃຈປະສົງ ອຸງພັນສີ 3CS2

ວຽກບ້ານ

Lecture (week 5)

❖ ຈົ່ງປ່ຽນແບບຈຳລອງສີລຸ່ມນີ້:

1. (R=70,G=40,B=125) ເປັນແບບ (Y,Cb,Cr)

   <u>ແກ້:</u>

   Y = 0.299*R + 0.587*G+0.114*B
     = 0.299*70 + 0.587*40 + 0.114 *125 = 58.66 ≈ 59

   Cb = 0.564*(B-Y)+128
      = 0.564*(125-59)+128 = 165.224 ≈ 165

   Cr = 0.713*(R-Y)+128
      = 0.713*(70-59)+128 = 135.843 ≈ 136

2. (Y=105,Cb=200,Cr=35) ເປັນແບບ (R,G,B)

   <u>ແກ້:</u>

   R = Y + 1.403*(Cr-128)
     = 105 + 1.403*(35-128) = -25.479 ≈ -25

   G = Cb - 0.344*(Cb-128) - 0.714*(Cr-128)
     = 200 – 0.344*(200 – 128) – 0.714*(35 – 128) = 241.634 ≈ 242

   B = Cr + 1.773*(Cb-128)
     = 35 + 1.773*(200 – 128) = 162.656 ≈ 163

3. (R=45,G=100,B=200) ເປັນແບບ (H,S,V)

   <u>ແກ້:</u>

   $V = max\{R, G, B\} = max\{45, 100, 200\} = 200 = B$

   $S = \dfrac{V - min\{R, G, B\}}{V} = \dfrac{200 - min\{45, 100, 200\}}{200} = \dfrac{200 - 45}{200} = 0.775$

   $V = B \rightarrow H = 240 + \dfrac{60 * (B - R)}{S} = 240 + \dfrac{60 * (200 - 45)}{0.775} = 12240°$

   ດັ່ງນັ້ນ, (R = 45,G = 100 ,B = 200) ຈະໄດ້ (H= 12000°, S=0.775, V = 200)