

	Unknown	Color1	Color2	Color3
R	41	10	12	15
G	29	25	30	55
B	44	11	45	64
Cabsdiff	4	66	4	49

Lets say you have stored the R, G, B values of 3 colors in elements 1 to 3 of an array as shown above. Now you read the values of an object, store them in element 0 of the array, and you want to see what color it is closest to.

First calculate the absolute difference between the unknown and the 3 colors in the array. (this is pseudo code not your particular version of basic)

For i = 1 to 3

Cabsdiff[i] = abs(R[0] - R[i]) ' Cabsdiff[i] = absolute red difference

Cabsdiff[i] = Cabsdiff[i] + abs(G[0] - G[i]) ' add absolute green difference

Cabsdiff[i] = Cabsdiff[i] + abs(B[0] - B[i]) ' add absolute blue difference

Now you just have to find the smallest element in the Cabsdiff array to get the closest color.

Cabsdiff [0] = Cabsdiff [1] ' set Cabsdiff [0] to the value of the first color

For i = 2 to 3

 If Cabsdiff [i] < Cabsdiff [0] ' compare the rest of the colors to the lowest color so far

 then ' if the next color has less difference than the unknown color

 Cabsdiff [0] = Cabsdiff [i] 'set Cabsdiff [0] to Cabsdiff [i] if Cabsdiff [i] is less than Cabsdiff [0]

 j = i 'set j to the index of the lowest difference

After this repeat is finished Cabsdiff [0] will be the difference of the closest color and j would be the index of the closest color. The next step would be to see if the match is close enough to consider them to be the same.

Now if you want the percentage difference of the unknown color and the closest color you use a loop similar to the first loop but you add the 3 color components.

For i = 1 to 3

 Cabsdiff[i] = R[i] + G[i] + B[i] ' calculate the sum of the R, G, and B values

And your arrays look like this:

	Unknown	Color1	Color2	Color3
R	41	10	12	15
G	29	25	30	55
B	44	11	45	64
Cabsdiff	4	46	87	134

Now the percent difference and match between the unknown and the closest value would be:

PercentDiff = Cabsdiff[0] / Cabsdiff[j] ' percent diff between unknown and closest color

PercentMatch = (Cabsdiff[j] - Cabsdiff[0]) / Cabsdiff[j] ' percent match between unknown and closest color