

H is the Hue of the color to convert.

S is the Saturation of the color to convert.

L is the Luminosity of the color to convert.

M_{axH} is the possible maximum of H (generaly 360°).

M_{axS} is the possible maximum of S (generaly 100%).

M_{axL} is the possible maximum of L (generaly 100%).

$H', S', L', C, X, m, R', G'$ and B' are internal variables that mustn't be displayed.

R is the part of Red in the translated color.

G is the part of Green in the translated color.

B is the part of Blue in the translated color.

M_{axR} is the possible maximum of R (generaly 255 or 100%).

M_{axG} is the possible maximum of G (generaly 255 or 100%).

M_{axB} is the possible maximum of B (generaly 255 or 100%).

$$H' = \frac{H}{M_{axH}} \times 360$$

$$H' = \begin{cases} H' & H' < 360 \\ 0 & H' = 360 \end{cases}$$

$$S' = \frac{S}{M_{axS}}$$

$$L' = \frac{L}{M_{axL}}$$

$$C = (1 - |2 \times L' - 1|) \times S'$$

$$X = C \times (1 - |\frac{H}{60} \bmod 2 - 1|)$$

$$m = L' - \frac{C}{2}$$

$$R', G', B' = \begin{cases} C, X, 0 & 0^\circ \leq H < 60^\circ \\ X, C, 0 & 60^\circ \leq H < 120^\circ \\ 0, C, X & 120^\circ \leq H < 180^\circ \\ 0, X, C & 180^\circ \leq H < 240^\circ \\ X, 0, C & 240^\circ \leq H < 300^\circ \\ C, 0, X & 300^\circ \leq H < 360^\circ \end{cases}$$

$$R = (R' + m) \times M_{axR}$$

$$G = (G' + m) \times M_{axG}$$

$$B = (B' + m) \times M_{axB}$$