The R,G,B values are divided by 255 to change the range from 0..255 to 0..1:

*R*' = *R*/255

*G*' = *G*/255

*B*' = B/255

The black key (K) color is calculated from the red (R'), green (G') and blue (B') colors:

*K* = 1-max(*R*', *G*', *B*')

The cyan color (C) is calculated from the red (R') and black (K) colors:

*C* = (1-*R*'-*K*) / (1-*K*)

The magenta color (M) is calculated from the green (G') and black (K) colors:

*M* = (1-*G*'-*K*) / (1-*K*)

The yellow color (Y) is calculated from the blue (B') and black (K) colors:

*Y* = (1-*B*'-*K*) / (1-*K*)

## RGB to CMYK table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Color | Color  name | (R,G,B) | Hex | (C,M,Y,K) |
|  | Black | (0,0,0) | #000000 | (0,0,0,1) |
|  | White | (255,255,255) | #FFFFFF | (0,0,0,0) |
|  | Red | (255,0,0) | #FF0000 | (0,1,1,0) |
|  | Green | (0,255,0) | #00FF00 | (1,0,1,0) |
|  | Blue | (0,0,255) | #0000FF | (1,1,0,0) |
|  | Yellow | (255,255,0) | #FFFF00 | (0,0,1,0) |
|  | Cyan | (0,255,255) | #00FFFF | (1,0,0,0) |
|  | Magenta | (255,0,255) | #FF00FF | (0,1,0,0) |

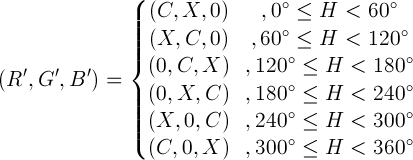
### HSV to RGB conversion formula

When 0 ≤ *H* < 360, 0 ≤ *S* ≤ 1 and 0 ≤ *V* ≤ 1:

*C* = *V* × *S*

*X* = *C* × (1 - |(*H* / 60º) mod 2 - 1|)

*m* = *V* - *C*



(*R*,*G*,*B*) = (*R*'+*m*, *G*'+*m*, *B*'+*m*)

### HSV to RGB color table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Color | Color  name | (H,S,V) | Hex | (R,G,B) |
|  | Black | (0º,0%,0%) | #000000 | (0,0,0) |
|  | White | (0º,0%,100%) | #FFFFFF | (255,255,255) |
|  | Red | (0º,100%,100%) | #FF0000 | (255,0,0) |
|  | Lime | (120º,100%,100%) | #00FF00 | (0,255,0) |
|  | Blue | (240º,100%,100%) | #0000FF | (0,0,255) |
|  | Yellow | (60º,100%,100%) | #FFFF00 | (255,255,0) |
|  | Cyan | (180º,100%,100%) | #00FFFF | (0,255,255) |
|  | Magenta | (300º,100%,100%) | #FF00FF | (255,0,255) |
|  | Silver | (0º,0%,75%) | #C0C0C0 | (192,192,192) |
|  | Gray | (0º,0%,50%) | #808080 | (128,128,128) |
|  | Maroon | (0º,100%,50%) | #800000 | (128,0,0) |
|  | Olive | (60º,100%,50%) | #808000 | (128,128,0) |
|  | Green | (120º,100%,50%) | #008000 | (0,128,0) |
|  | Purple | (300º,100%,50%) | #800080 | (128,0,128) |
|  | Teal | (180º,100%,50%) | #008080 | (0,128,128) |
|  | Navy | (240º,100%,50%) | #000080 | (0,0,128) |

### RGB to HSV conversion formula

The *R*,*G*,*B* values are divided by 255 to change the range from 0..255 to 0..1:

*R*' = *R*/255

*G*' = *G*/255

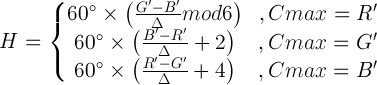
*B*' = *B*/255

*Cmax* = max(*R*', *G*', *B*')

*Cmin* = min(*R*', *G*', *B*')

Δ = *Cmax* - *Cmin*

Hue calculation:



Saturation calculation:

http://www.rapidtables.com/convert/color/rgb-to-hsv/sat-calc.gif

Value calculation:

*V* = *Cmax*

### RGB to HSV color table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Color | Color  name | Hex | (R,G,B) | (H,S,V) |
|  | Black | #000000 | (0,0,0) | (0º,0%,0%) |
|  | White | #FFFFFF | (255,255,255) | (0º,0%,100%) |
|  | Red | #FF0000 | (255,0,0) | (0º,100%,100%) |
|  | Lime | #00FF00 | (0,255,0) | (120º,100%,100%) |
|  | Blue | #0000FF | (0,0,255) | (240º,100%,100%) |
|  | Yellow | #FFFF00 | (255,255,0) | (60º,100%,100%) |
|  | Cyan | #00FFFF | (0,255,255) | (180º,100%,100%) |
|  | Magenta | #FF00FF | (255,0,255) | (300º,100%,100%) |
|  | Silver | #C0C0C0 | (192,192,192) | (0º,0%,75%) |
|  | Gray | #808080 | (128,128,128) | (0º,0%,50%) |
|  | Maroon | #800000 | (128,0,0) | (0º,100%,50%) |
|  | Olive | #808000 | (128,128,0) | (60º,100%,50%) |
|  | Green | #008000 | (0,128,0) | (120º,100%,50%) |
|  | Purple | #800080 | (128,0,128) | (300º,100%,50%) |
|  | Teal | #008080 | (0,128,128) | (180º,100%,50%) |
|  | Navy | #000080 | (0,0,128) | (240º,100%,50%) |

### RGB to HSL conversion formula

The *R*,*G*,*B* values are divided by 255 to change the range from 0..255 to 0..1:

*R*' = *R*/255

*G*' = *G*/255

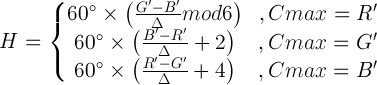
*B*' = *B*/255

*Cmax* = max(*R*', *G*', *B*')

*Cmin* = min(*R*', *G*', *B*')

Δ = *Cmax* - *Cmin*

Hue calculation:



Saturation calculation:

http://www.rapidtables.com/convert/color/rgb-to-hsl/sat-calc.gif

Lightness calculation:

*L* = (*Cmax + Cmin*) / 2

### RGB to HSL color table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Color | Color  name | Hex | (R,G,B) | (H,S,L) |
|  | Black | #000000 | (0,0,0) | (0º,0%,0%) |
|  | White | #FFFFFF | (255,255,255) | (0º,0%,100%) |
|  | Red | #FF0000 | (255,0,0) | (0º,100%,50%) |
|  | Lime | #00FF00 | (0,255,0) | (120º,100%,50%) |
|  | Blue | #0000FF | (0,0,255) | (240º,100%,50%) |
|  | Yellow | #FFFF00 | (255,255,0) | (60º,100%,50%) |
|  | Cyan | #00FFFF | (0,255,255) | (180º,100%,50%) |
|  | Magenta | #FF00FF | (255,0,255) | (300º,100%,50%) |
|  | Silver | #C0C0C0 | (192,192,192) | (0º,0%,75%) |
|  | Gray | #808080 | (128,128,128) | (0º,0%,50%) |
|  | Maroon | #800000 | (128,0,0) | (0º,100%,25%) |
|  | Olive | #808000 | (128,128,0) | (60º,100%,25%) |
|  | Green | #008000 | (0,128,0) | (120º,100%,25%) |
|  | Purple | #800080 | (128,0,128) | (300º,100%,25%) |
|  | Teal | #008080 | (0,128,128) | (180º,100%,25%) |
|  | Navy | #000080 | (0,0,128) | (240º,100%,25%) |