

Color Models for Raster Graphics

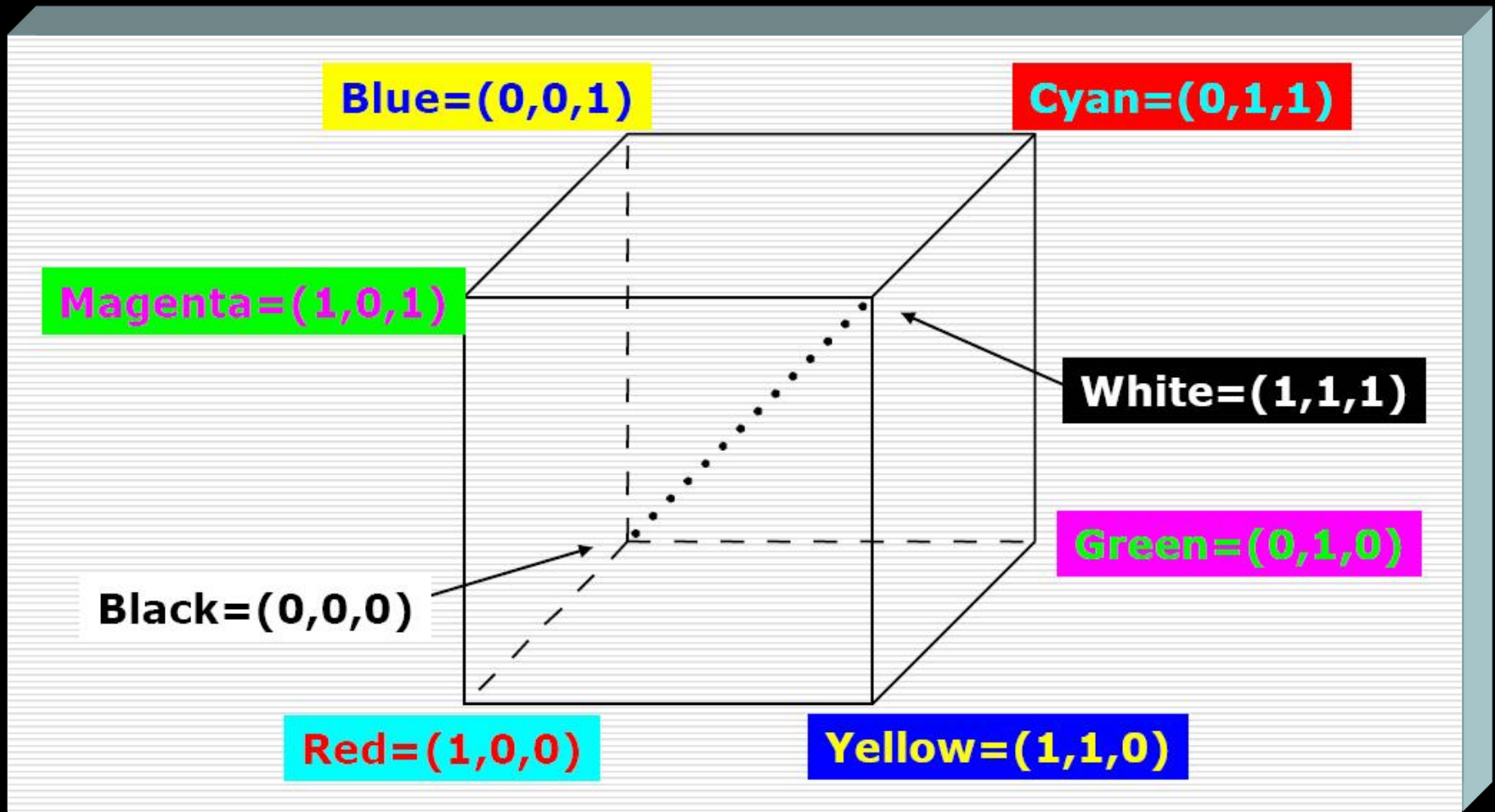
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The RGB Color Model—for CRT



The CMY Color Model –for hardcopy

$$\begin{bmatrix} C \\ M \\ Y \end{bmatrix} = \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix} - \begin{bmatrix} R \\ G \\ B \end{bmatrix}$$

$$K = \min(C, M, Y)$$

$$C = C - K$$

$$M = M - K$$

$$Y = Y - K$$

The YIQ Color Model —for color-TV

$$\begin{bmatrix} Y \\ I \\ Q \end{bmatrix} = \begin{bmatrix} 0.299 & 0.587 & 0.114 \\ 0.596 & -0.275 & -0.321 \\ 0.212 & -0.528 & 0.311 \end{bmatrix} \begin{bmatrix} R \\ G \\ B \end{bmatrix}$$

Y: luminance

I and Q: chromaticity

(染色性)

The HSV Color Model

–for user-oriented

- H : hue
- S : saturation
- V : value
- (or B for blight)

