Question 1:
Output of ColorImage.cpp:

Original image

Red
Picture contains only the red channel.

Green
Picture contains only the green channel.

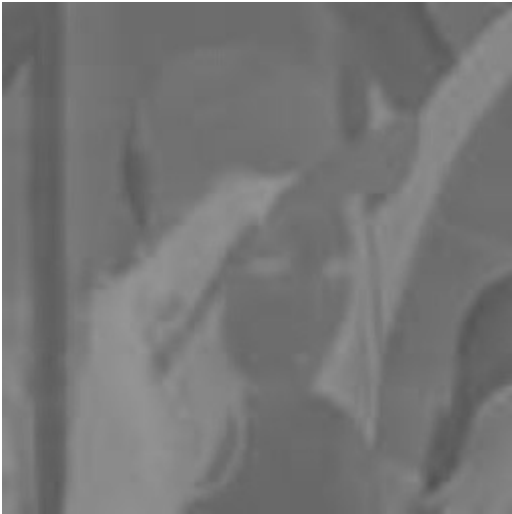Blue

Picture contains only the blue channel.

Y

Picture indicates the luminance, it's a grayscale version of the original image.

Cb

Picture indicates the blue difference chroma components.

Cr

Picture indicates the red difference chroma components.

Hue

Picture indicates the color by angle (no idea why it's black and white)

Saturation

Picture indicates the percentage of gray in each pixel, so it's black and white.

Value
Picture indicates the brightness. (black and white)

Questoin 2:

RGB value of pixel (20, 25): [102 165 156]
the range of pixelvalue in blue channel: (0, 255)
the range of pixelvalue in green channel: (0, 234)
the range of pixelvalue in red channel: (0, 255)
YCrCb value of pixel (20, 25): [155 129 98]
the range of pixelvalue in Y channel: (1, 224)
the range of pixelvalue in Cr channel: (70, 230)
the range of pixelvalue in Cb channel: (35, 185)
HSV value of pixel (20, 25): [34 97 165]
the range of pixelvalue in h channel: (0, 179)
the range of pixelvalue in s channel: (0, 255)
the range of pixelvalue in v channel: (4, 255)