The reason the black-and-white mask shows color when plotted is because many visualization libraries, like Matplotlib, apply a **default color map** when displaying single-channel grayscale images. This color map assigns different colors to various intensity levels (shades of gray) to enhance visibility, which results in the appearance of colors rather than pure black and white.

To avoid this behavior, you need to explicitly set the color map to grayscale when plotting the mask. For example, in Matplotlib, you can use:

plt.imshow(mask, cmap='gray')

This forces the image to be displayed in grayscale, showing only shades of black and white without additional colors.