**OBSERVATION:**

To compare the original and compressed image, you can visually inspect them side by side and compare the file sizes. The quality and file size change will depend on the number of colors chosen for compression (`num\_colors` in the code).

Here’s what you can observe:

1. Visual Quality:

- The compressed image will generally have a reduced number of colors compared to the original image.

- Areas with similar colors will be grouped together, resulting in fewer distinct color shades.

- Fine details and subtle color variations may be lost in the compressed image.

- The level of visual quality loss will depend on the chosen number of colors and the complexity of the image.

2. File Size:

- The file size of the compressed image will typically be smaller than the original image.

* Original Size = 101 KB
* Compressed Size = 98 KB

- The reduction in file size will depend on the number of colors chosen and the level of color complexity in the original image.

- The more colors used in the original image, the larger the potential file size reduction with compression.

Keep in mind that the extent of quality loss and file size reduction can be controlled by adjusting the number of colors (`num\_colors`) chosen for compression. Higher values of `num\_colors` will preserve more color details but may result in less file size reduction, while lower values will lead to more compression but with a higher loss of color information.

It's important to strike a balance between visual quality and file size reduction based on the specific requirements and constraints of your use case.