Image compression using KMeans algorithm:

1. Is there a trade-off between image quality and degree of compression? What would be a good value of K for each of the two images?

**Ans:** Yes. There is a trade-off between image quality and degree of compression. If image is highly compressed its quality reduces, as it displays only limited colours. In compression pixels which are close in colour get similar colour. Thus this reduces number of colours in the image and thereby reducing image quality. Conversely if value of k is increased, more colours can be shown in image which increases image quality but size of the image also increases. So we can say there is a trade-off between image quality and degree of compression.

For both images K value can be 20 which around gives 50% compression in size and image clarity is good for 25 iterations.

The results of the compressed images for different values of K are available in the folder.