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 the image is compressed too much, its quality decreases because it displays only few colours.

While compressing, the pixels which are close in colour will get the same colour. Hence, we will get only few colours and hence image quality reduces.

If k value is increased, more colours can be shown and hence image quality increases.

So we can say there is a trade-off between image quality and degree of compression.

For both given Koala.jpg and Penguins.jpg images, good value for K is 20 and image clarity will be good for number of iterations = 25.

The compressed images with different K values are also attached in the folder.