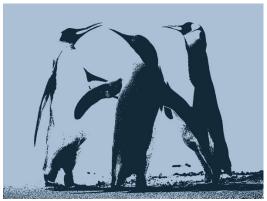
Part 2

K-means clustering on images

Penguins Data

K=2



AVG Compression Ratio= 0.10950908611723567 VAR Compression Ratio= 1.925929944387236e-34

K=5



AVG Compression Ratio= 0.13564419189159654 VAR Compression Ratio=1.3000434469784282e-06

K=10



K = 15



AVG Compression Ratio=0.14944017690127084 VAR Compression Ratio=1.914849767047207e-06

K = 20



AVG Compression Ratio=0.149766700362575363 VAR Compression Ratio=2.009065021278021e-06

Koala Data-

K=2



AVG Compression Ratio=0.16926838201864425

K=5



AVG Compression Ratio=0.22570697116277402 VAR Compression Ratio=0.0

K=10



AVG Compression Ratio=0.20955238713626892 VAR Compression Ratio=3.158447294813235e-07

K=15



AVG Compression Ratio=0.20246532220160315

K=20



AVG Compression Ratio=0.20011628636670417 VAR Compression Ratio=7.350916321271544e-07

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

Yes, the less the value of K, the lesser the image quality. K=15 would be a good value where there's not much loss of image quality but at the same time, a good amount of compression has been achieved.