Clustering colors

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Color compression

- 3-vectors $x_1, \ldots x_N$ represent RGB values of each pixel in an image
- in 24-bit color representation $(x_i)_m \in \{1, 2, \ldots, 256\}$
- total of $256^3 \approx 1.7 \times 10^7$ possible colors
- compress color vectors to k colors using k-means

Compressed image for various values of k

k=4

k=8

k=64

Original image