* Def: An image resolution is the total # of bits of the given image.
  + Ex. Resolution (lenna.jpg) = 512\*512\*8
  + Resolution – m\*n\*b
    - m represents the # of rows
    - n represents the number of columns
    - b represents the number of bits per pixel
  + There can be three frames of these for color images
    - Red
    - Green
    - Blue
    - Resolution of color image:
      * (m\*n\*b\*3)
* Histogram of an image
  + Definition: The histogram of an image f with resolution m\*n\*b is a one-dimensional array of the frequencies of its gray levels:
    - L = 2^b
      * If b=8, there are 256 gray levels
    - H(k) = nk : # of pixels with gray level = k, where k = 0, 1, 2, …, L-1
  + Note:
    - Sum(nk) from 0 to L – 1 = m\*n
  + Normalized histogram
    - Vector – P
    - P(k) = H(k) / N where N = (m\*n)
    - Sum(p(k)) from k = 0 to L-1 = 1
    - Components of the array p are probabilities
    - P(x) is called the probability density function of the given image.
    - Summary Statistics
      * Given an image f with resolution = m\*n\*b with Probability Density Function PDF, P(k), where K: gray level = 0,1,…,L-1. We can calculate the following measures:
      * Mean: Expected(k) = E(k) = Sum(k\*p(k)) from k = 0 to L-1
      * Variance: V(K) = E(K^2) – [E(K)]^2
        + Standard Deviation: SD(k) = sqrt(V(K))
      * Entropy : Entr(k) = Sum(- p(k) \*log2(p(k)) from k = 0 to L – 1.
        + Sum(-p.\*log(p)/log(2))
      * ALL ABOVE STATISTICS MUST BE POSITIVE