Image Processing

1. An image is usually regarded as a function f that maps image coordinates _____ to intensity values.
    a. Y, Z
    b. A, B
    c. X, Y
    d. X, Z
2. What provides information about the distribution of the intensity values of an image?
    a. Grayscale
    b. Image domain
    c. Filters
    d. Histograms
3. The cumulative distribution function (CDF) sums up the _____ entries.
    a. Signal
    b. Value
    c. Histogram
    d. Numerical
4. How many bits can a computer monitor display for each color channel?
    a. 8
    b. 12
    c. 16
    d. 20
5. True or false. In CT, the gray values have known physical properties and allow interpretation of the material.
    a. True
    b. False
6. Hounsfield units from the -1,000 to 1,000 range cover which of the following?
    a. Air
    b. Soft tissue
    c. Contrast agents
    d. All the above
7. A different approach to enhance the display of an image is _____.
    a. Histogram normalization
    b. Histogram equalization
    c. Histogram balance
    d. Histogram impedance
8. What is a common problem in image processing?
    a. Edge detection
    b. Edge intensity
    c. Edge changes
    d. Edge restriction
9. Filtering and the transformation of the image is determined by the _____.
    a. Filter center
    b. Filter kernel
    c. Filter edge
    d. Filter width

10. True or false. Average/Mean/Box Filter is the most basic filter.
    a. True
    b. False
11. The better choice for blurring an image than the averaging filter is the _____ filter.
    a. Gaussian
    b. Lean
    c. Fourier
    d. Linear
12. The Prewitt and _____ filters are a combination of a blurring and a derivative filter.
    a. Gaussian
    b. Fourier
    c. Sobel
    d. Lena