1. Because when we load picture into Matlab, it will store in a 3D array.

2. Suppose a is the 2D-array.

b = a(: , 1);

3. c = a(1 , 10);

4. A(find(A >= 10 & A <= 20)) = -1;

5. The find method in Matlab return the index of the elements in the array that satisfies the condition. If A is a 2D array, it set the indexes by top to down then left to right. The zero method return a row\*col matrix that every element of it is 0. For slicing, we can just get the things we need by its index or position. When we need multiply things, we can use “,” between them. When we want consecutive things, we can use “:” to get everything in between. Or use “begin:step:end” to get element that has the same gap in between.

6. Converting a picture to grayscale is mainly combine the three layers together in some proportion. The result will be a 2D array. The value inside will be scaled to [0,255] in proportion to the min and max value get from calculation. In the calculation, the green part will be the main part, which is also true from my observation of the example.

Original picture

get picture from <http://flashlarevista.com/content/wallpapers-bright-colorful.html>

png:



I feel the green one is more like the greyscale.

Grayscale picture:

