MTH208a: Assignment 2

Write a function `prop.color` that calculates the proportion of pixels in a given image that are within a 0.5 Euclidean distance from a given color. That is, if x_{ij} is the rbg vector of the i, jth pixel and c is a given color vector, then function should return the proportion of pixels in the image for which

$$\|x_{ij} - c\| \leq 0.5$$

(Here norm is the 2-norm or the Euclidean norm).

The function should take two arguments; `img` which will be an `imager` image and `col` which will take a vector of length 3. **Note:** `img` will not be a file name, but rather an an already loaded image using `imager` package. The function should look like

```
prop.color <- function(img, col)
{
  ...
  ...
  return(...)
}
```

Copy and paste your entire function in the `assignment2.R` file on Github to submit the assignment.

Note: there is an image `campus.jpeg` available in the GitHub repository for you to test the function on. I may use any other image to calculate the require proportion for any color of my choice. Thus your function should work for any `imager` image and any color vector. To test your function, I will use commands like below (not exactly the same as below, as I might change the color vector):

```
pic <- load.image("my-pic.jpeg") # any random pic chosen by me
my.col <- c(.4, .3, .2) # some color of my choice
prop.color(pic, my.col)
```