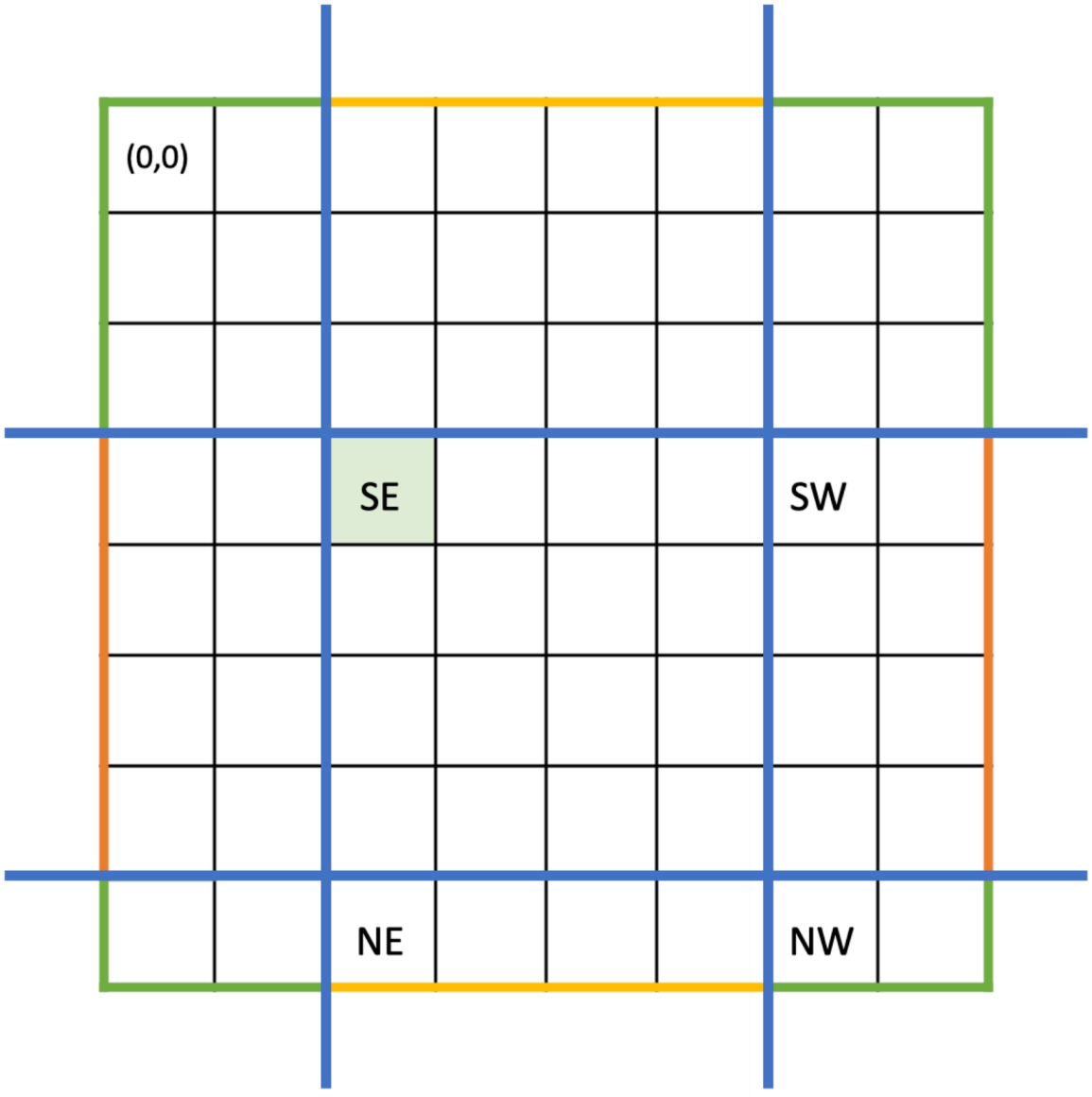
Image_Compression

This is an algorithm meant to compress images using a quadtree and a process of pruning the tree based on similarity.

Images are split into quadtrees recursively using the following splitting technique



A process of entropy minimization is run to find the ideal splitting point

Where entropy is defined as follows

$$-\sum_{i=0}^{35} p_i \log_2 p_i \tag{1}$$

Where p_i indicates the *fraction* of pixels within a given range of hues defined by

$h \geq i * 10$ and $h < (i + 1) * 10$

Problem specification with more images and better explanations (although this spec may be taken down soon):

https://www.ugrad.cs.ubc.ca/~cs221/2018W2/mps/p3/

Note — I wrote this algorithm as an assignment for one of my CS classes, not all of the code is mine (much of it is not).