

**PART III (Due Sep 25<sup>th</sup> at 11:55PM)**

Now your program will take the cleaned-up image and label its connected components using:

- a) The efficient algorithm (Algorithm 4.1.2: **Efficient component labeling** in Section 4.1, page:10). Use the Matrix type that is defined in the library to store all pixel labels

**PART IV (Due Sep 25<sup>th</sup> at 11:55PM)**

Let us use the label information to color and count the letters in the image text. We do not want to consider the commas and periods, and obviously we do not want to count the dots of i's or j's separately. To do this:

- Find an appropriate size threshold and simply ignore all connected components that are smaller than that threshold.
- For the connected components of above-threshold size, give each of them an individual, random color that differs visibly from both black and white. Leave all other parts of the image unchanged.
- Write the resulting image into a file named "text\_colored.ppm." and print out the number of above-threshold sized connected components. This should be the number of letters in the text

Awesome job! You are Done. Submit Part III and IV

**Submitting Information:**

- Use the code I provided
- You should have all code in a zip file
- Submit your work on Canvas.

