MAT 331 Fall 2017, Project 10
Solving a random permutation substitution

This project is to decode a text that was encoded by choosing a single random permutation of 1,..., 26 and using this to change all the letters. Blank spaces are left alone.

(1) The file `plain3.txt.rp` contains the initial paragraphs of an English language novel that was encoded by using the `MATLAB` program `rp_code.m`. Both the encoded text and the program are available in the `Crypt` subdirectory of the class webpage. Do a letter count of the text and plot the results. Compare it the letter count of some other English text. How do they compare? Can you make some guesses for the letters?

(2) Decode the as we did in class by guessing which letters to swap. In class we used a function `set_letters.m` from the `Crypt` subdirectory, but you may write your own code, if you prefer. Keep track of the substitutions you make, and in your report describe a few cases in detail; why did you try certain things? What clues did you see? What common words did you guess?

(3) Include a copy of the decoded text in your report.

(4) Use Google (or another search engine) to figure out the title and author of the coded text.