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CS141 Assignment 3

due Friday, June 3

Disclaimer

This assignment was pretty difficult and because so I have opted to make the explanations of the solutions as best as I can (i.e. layman's terms) since I find it WAY EASIER to understand the problems and present my solutions in a plain manner.

After many many **MANY** hours of simply trying to understand the problem I found it would be best if I keep the jargon to the utmost minimum since it was the stupid jargon and "buzzwords" that have caused me the most pain during the course of this ENTIRE class. Thank you and I hope you appreciate my solutions.

Solution 1: Consulting Firm

A

If our moving cost $M = 10$ and the number of operational months $n = 4$, then we have the table below to analyze.

	Month1	Month2	Month3	Month4
NY	1	3	20	30
SF	50	20	2	4

We are given the optimal plan already, however

B

C

D

Solution 2: Pretty Print

The entire basis of this problem is to be able to take some text that is "not balanced" and turn it into text whose right margin is as even as possible. Look below to see what I mean.

<p>Call me Ishmael. Some years ago, never mind how long precisely, having little or no money in my purse, and nothing particular to interest me on shore, I thought I would sail about a little and see the watery part of the world.</p>	→	<p>Call me Ishmael. Some years ago, never mind how long precisely, having little or no money in my purse, and nothing particular to interest me on shore, I thought I would sail about a little and see the watery part of the world.</p>
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In order to accomplish this we will need to make use of dynamic programming. Here is the overview of how we will make use of this programming technique:

- Take the text and "tokenize" into a word list called W
- Create a matrix of size

A: Recurrence Relation

In order to come up with a recurrence relation we need to understand what exactly is dependent on what. In other words, we need to understand what exactly we are computing and how the previous computation affects our current/next computation.

B: The Algorithm

In order to solve this problem we will divide this into two sub problems. The 1st subproblem will deal with using dynamic programming to create a table of slack lengths known as our *slack – cost – table*. The second problem will deal with using the slack cost table to actually calculate the

Solution 3:
