COP4342: Homework #3

Due on Monday, October 15, 2007

Text message reformatting

In this assignment, you are again asked to do reformat the all-caps text messages as distributed by the National Weather Service. However, this time your assignment is to do this using Perl rather than Bash.

Remember, these messages usually appear something like

```
SPECIAL TROPICAL DISTURBANCE STATEMENT

NWS TPC/NATIONAL HURRICANE CENTER MIAMI FL

845 AM EDT WED SEP 12 2007

SATELLITE AND NWS RADAR OBSERVATIONS INDICATE THAT THE AREA OF LOW
PRESSURE IN THE NORTHWESTERN GULF OF MEXICO IS BECOMING BETTER
ORGANIZED THIS MORNING.  THIS SYSTEM COULD BECOME A TROPICAL
DEPRESSION LATER TODAY...AND AN AIR FORCE RESERVE UNIT
RECONNAISSANCE AIRCRAFT WILL INVESTIGATE THE AREA EARLY THIS
AFTERNOON.  THE LOW IS MOVING SLOWLY NORTH-NORTHWESTWARD...AND
REGARDLESS OF WHETHER OR NOT IT BECOMES A TROPICAL CYCLONE...HEAVY
RAINS ARE EXPECTED TO SPREAD ACROSS SOUTHEASTERN TEXAS AND
LOUISIANA OVER THE NEXT COUPLE OF DAYS.  FOR INFORMATION SPECIFIC
TO YOUR AREA...PLEASE CONSULT STATEMENTS ISSUED BY YOUR LOCAL NWS
FORECAST OFFICE.


FORECASTER FRANKLIN
```

Your task this time will be to write a Perl script that accepts any number of these messages and reformats them.

You may not use any outside Unix tools; the program cannot use `system`, backquotes, or any of the other Perl methods to invoke other processes.

You can use any other built-ins that you like from Perl, including such items as `echo`, iteration constructions, and variable assignment. You may also use any outside Perl package you find on any of the linprog machines.

You may not use any other general programming language, such as C or Python.

Specifications

Please name your shell script `NWS-2007-10-15.pl` (NWS is short for National Weather Service.)

Your program should accept from the command line a series of filenames. For instance, it should be able to take:

```
% ./NWS-2007-10-15.pl advisory.txt discussion.txt out.txt summary.txt update.txt
```

For each of these files `FILE`, it should create a new result file named `FILE.OUT`.

The new file should be reformatted in the following manner:

- The result file `FILE.OUT` should be formatted to 100 columns.

- Spacing inside of paragraphs should be made uniform: one space betwwen words, two after sentences.

- Spacing outside of paragraphs should stay the same.

- Case should be changed to normal English rather than all-caps. Try to preserve correct capitalization for proper names. (Hint: to do this, you can create static (or even dynamic) data files that provide spelling hints.)

For instance, the previous message could be reformatted to:

```
Special tropical disturbance statement

NWS TPC/National Hurricane Center Miami FL

845 am EDT Wed Sep 12 2007

Satellite and NWS radar observations indicate that the area of low pressure in the northwestern
Gulf of Mexico is becoming better organized this morning.  This system could become a tropical
depression later today...and an Air Force reserve unit reconnaissance aircraft will investigate
the area early this afternoon.  The low is moving slowly north-northwestward...and regardless
of whether or not it becomes a tropical cyclone...heavy rains are expected to spread across
southeastern Texas and Louisiana over the next couple of days.  For information specific to
your area...please consult statements issued by your local NWS forecast office.

Forecaster Franklin
```

There are a number of example input and output files that you can use for testing on the class website.

Homework submission

Please email your script `NWS-2007-10-15.pl` as an attachment to `cop4342@cs.fsu.edu` by no later than 11:59pm on Monday, October 15.