

Homework Assignment No. 05:

HW No. 05: Dynamic Programming

submitted to

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ECE 8527: Introduction to Pattern Recognition and Machine Learning
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A. TESTING APPROACH

In order to test our approach, we decided to test it against all of the test cases provided to us. We copied all of the tests over and used a combination of python and command line tools in order to parse each test into a file that the program understands. We then iterated through each test for the program and compared the outputs of our program versus the output of the current system.

B. EXAMPLE RESULTS

Our code got every test correct. However, it got different solutions on a few tests:

Control Results:

THE transaction requires approval of a majority of * ***** THE SHARES of the HOLDERS NOT AFFILIATED WITH MR. ICAHN
 A transaction requires approval of a majority of A SHARE A LOT of the ***** ** ***** ** LATIN AMERICA
Substitutions: 5 Insertions: 4 Deletions: 2 Total: 11

Our Results:

THE transaction requires approval of a majority of THE SHARES OF THE HOLDERS NOT AFFILIATED WITH MR. ICAHN
 A transaction requires approval of a majority of ** ***** A SHARE A LOT OF THE LATIN AMERICA
Substitutions: 9 Insertions: 2 Deletions: 0 Total: 11

Control Results:

the company THEN ACCEPTS THE shares tendered AT the lowest ***** PRICE NEEDED to REACH ITS GOAL THEN PAYS that amount FOR all shares IT PURCHASES
 the company RAN INTO ITS shares tendered AND the lowest PRICED BELOW THREE to ***** ** ***** ELIMINATE that amount OF all shares THE AREA
Substitutions: 10 Insertions: 4 Deletions: 1 Total: 15

Our Results:

the company THEN ACCEPTS THE shares tendered AT the lowest PRICE NEEDED TO REACH ITS GOAL THEN PAYS that amount FOR all shares IT PURCHASES
 the company RAN INTO ITS shares tendered AND the lowest ***** ** PRICED BELOW THREE TO ELIMINATE that amount OF all shares THE AREA
Substitutions: 12 Insertions: 3 Deletions: 0 Total: 15

Control Results:

*** WE'RE not PREPARED to BE ADVOCATES FOR the *** K. G. B.
 WHO ARE not ***** to ** HEAD OF the END THE CANDIDATE WHO
Substitutions: 6 Insertions: 2 Deletions: 2 Total: 10

Our Results:

WE'RE NOT PREPARED to BE ADVOCATES FOR THE K. G. B.
 WHO ARE NOT to HEAD OF THE END THE CANDIDATE WHO
Substitutions: 10 Insertions: 0 Deletions: 0 Total: 10

C. SUMMARY

Overall, we can see that our program has a bias towards substitutions whereas the control algorithm has a more even distribution. There were 25 test cases that followed this pattern. This seems to be a difference in the algorithms or perhaps in classifying some of the changes as 2 substitutions instead of an insertion and a deletion.