Assignment 8

Dynamic Programming

In this assignment, you will be given a text **t** and a regular expression **p** where **t** consists of English alphabets while **p** consists of English alphabets and special characters '**.**' (dot), '*****' (star)**,** and '**+**' (plus)**.** Your task is to implement an efficient algorithm using dynamic programming to test whether the text matches the regular expression such that:

- '.' - Dot matches any single character
- '*' - Star matches zero or more of the preceding character
- '+' - Plus matches one or more of the preceding character

Note: The regular expression will be a valid pattern. That means, for each appearance of the character '*****' and '+,' there will be a previous valid character or '.' to match.

Input/ Output:

Your program should take as input two strings, **t** and **p,** respectively.

Print **True** if the text **t** matches the regular expression **p.** Otherwise, print **False.**

Sample Input	Sample Output
aaa a*	True
abb a.*	True
aabbcc a*c*b*	False
bbcc a+bbcc	False
bbcc a*bbc.	True

Submission

1. Create a directory with your 7-digit student ID as its name.
2. Put all the source files (`.cpp`/`.hpp`/`.c`/`.h` files) only into the above directory.
3. Zip the directory (compress in `.zip` format. Any other format like `.rar, .7z`, etc. are unacceptable).
4. Upload the `.zip` file in Moodle.
5. Submission Deadline: December 01, 23:59 PM
6. **DO NOT COPY solutions from anywhere (your friends, seniors, the internet, etc.). Any form of plagiarism (irrespective of source or destination) will be penalized severely.**