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## **Homework 2 Question 6**

Use a stack to pass in a string and reverse each word in the string. For instance, if you have the string “When Chuck Norris falls in water, Chuck Norris doesn't get wet. Water gets Chuck Norris.” It should now say, “nehW kcuHc sirroN sllaf ni retaw, ...” That is, it should take in one string and be a function (or multiple functions) that use a stack (or multiple stacks) to reverse each word in the sentence. Create a text file that you input of Chuck Norris jokes and have the program reverse each of the jokes.

### **Program Description:**

The program reads lines from a file where each line is a Chuck Norris joke. Each line from the file is read as a string and passed into the reverseJoke function where the string is reversed and printed. The reverseJoke function reads each word from the joke string and uses a stack to store the word in reverse order. Once a word has been completely pushed into the stack, each character is printed and popped until the stack is empty, and then the function reads the next word and reverses its contents until there are no more words in the string.

The function includes flags to check if the character seen is a period or a comma. Periods and commas appear in the same position for a reversed word. For example, if we are reversing “Chuck Norris, he’s great.”, the function will output “kcuHc sirroN, s’eh taerg”. If the function encounters a period or a comma at the top of the stack, this means the word was followed by one of those characters. The character is removed from the stack and the appropriate flags are set to true. The remaining characters, which should be letters, are printed until the stack is empty, and

either of the flags are set to true, we print the period or comma, then reset the flag for the next word.

Here are sample outputs from the program:

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Joke Read: test
Reversing Joke: tset.
Joke Read: Chuck Norris doesnt read books. He stares them down until he gets the information he wants.
Reversing Joke: kcuHc sirroN tnseod daer skoob. eH serats meht nwod litnu eh steg eht noitamrofni eh stnaw.
Joke Read: Time waits for no man. Unless that man is Chuck Norris.
Reversing Joke: emiT stiaw rof on nam. sselnU taht nam si kcuHc sirroN.
Joke Read: If you spell Chuck Norris in Scrabble, you win. Forever.
Reversing Joke: fI uoy lleps kcuHc sirroN ni elbbarcS, uoy niw. reveroF.
Joke Read: Chuck Norris breathes air ... five times a day.
Reversing Joke: kcuHc sirroN sehtaerb ria ... evif semit a yad.
Joke Read: In the Beginning there was nothing ... then Chuck Norris roundhouse kicked nothing and told it to get a job.
Reversing Joke: nI eht gninnigeB ereht saw gnihton ... neht kcuHc sirroN esuohdnuor dekcik gnihton dna dlot ti ot teg a boj.
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