CSCD 240
HW 2

PROGRAM SPECIFICS

Write a program that reads a series of strings from a file

- The filename will be specified by the user
- The strings will be stored in dynamically allocated arrays.
- The program will read in the strings store them in the dynamically allocated arrays, and then the program will create a random string.
- Note: Order of items is guaranteed to be the same.
- The format of the file will be:
    - A number a space the type of the word
    - the words. (See sample below)

5 article
the
a
one
some
any
3 noun
boy
girl
dog
4 verb
drove
jumped
walked
skipped
5 preposition
to
from
over
under
on

- A random sentence is made from noun verb preposition article noun and will be stored in a new dynamically allocated array
- The maximum string size you will deal with is 100.
- You will read until you reach the end of file.
- There will be at least one of each type of word.
- Use a header file, function definition file, and tester file. The tester file will contain the main function only. The main function should contain necessary variables for your program and calls to the appropriate functions to do what your assignment needs to do.
- The main function will not contain any real processing, just function calls, and a do while or some kind of loop.

- Your main will contain lines similar to the following
    - char ** articles = NULL;
    - int totalArts = 0;
    - articles = fillArray(fin, &totalArts);
- You will display a menu options below
- The arrays will be sorted. You may use any sort you would like, just ensure the strings are sorted in alphabetical ascending order.
- You must ensure that all dynamically allocated memory is returned to the operating system.
- Appropriate error checking for menu choices is a must.
- The user will be presented with a menu that contains the following choices:
    - 1) Generate a Sentence
    - 2) Display all words
    - 3) Add a word
    - 4) Display all words sorted
    - 5) Exit the program

SAMPLE RUN

Welcome to the Random Sentence Generator (Stu really needs to get a life)

Please enter the name of the input file: input.txt

Processed:
5 Articles
3 Nouns
4 Verbs
5 Prepositions

Please choose from the following:
1) Generate a Sentence
2) Display all words
3) Add a word
4) Display all words sorted
5) Exit the program
Choice --> 1

dog jumped over some girl

Please choose from the following:
1) Generate a Sentence
2) Display all words
3) Add a word
4) Display all words sorted
5) Exit the program
Choice --> 2

Articles: a any one some the
Nouns: boy dog girl
Verbs: drove jumped skipped walked
Prepositions: from on over to under

Please choose from the following:
1) Generate a Sentence
2) Display all words
3) Add a word
4) Display all words sorted
5) Exit the program
Choice --> 3

Add a word to:
1) Articles
2) Nouns
3) Verbs
4) Prepositions
Choice --> 3

What word would you like to add: ran

Please choose from the following:
1) Generate a Sentence
2) Display all words
3) Add a word
4) Display all words sorted
5) Exit the program
Choice --> 2

Articles: a any one some the
Nouns: boy dog girl
Verbs: drove jumped ran skipped walked
Prepositions: from on over to under

Please choose from the following:
1) Generate a Sentence
2) Display all words
3) Add a word
4) Display all words sorted
5) Exit the program
Choice --> 1

boy ran to some girl

Please choose from the following:
1) Generate a Sentence
2) Display all words
3) Add a word
4) Display all words sorted
5) Exit the program
Choice --> 4

a any boy dog drove from girl jumped on one over skipped some the to under walked

Please choose from the following:
1) Generate a Sentence
2) Display all words
3) Add a word
4) Display all words sorted
5) Exit the program
Choice --> 5

Have a nice day! :-)

TO TURN IN:

A zip file containing:

- All files needed to compile and run your code
  - Name the file that contains main: cscd240hw2.c
- All input files
- A Makefile with the target hw2

Naming scheme last name first letter of first name hw2.zip (ex: steinershw2.zip)

GET STARTED ASAP