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# Project Overview

This program will classify the phrases in a file as one of the following classes:

* Perfect Palindrome: The entire phrase is the same forward and backwards. racecar and god saw I was dog are perfect palindromes.
* Natural Palindrome: The phrase is the same forward and backwards but there may be additional punctuation or the case of the letters may differ. I did, did I? and Able was I ere I saw Elba are examples of natural palindromes.
* Palindrome: The letters only are the same forwards and backwards, there may be other non-letter characters, including spaces, in the phrase. A man, a plan, a canal: Panama. and Madam, I'm Adam. are examples of palindromes.
* Non-palindrome: None of the above. Hello world! and spam are examples of non-palindromes.

This program relies on the PalRoutines library.

**Structure Chart**

# Top Level Functions

Particular attention needs to be paid to input/output format.

**Main**

Narrative: Open the file and process all phrases

*Open File*

*while there are phrases in the file*

 *classify each phrase*

 *print the result of the classification*

**Function:** OpenFile

Narrative: Get the file name from the user and open it.

Input: none

Output: the open file stream.

*Get the file name.*

*Attempt to open the file*

*if the file could not be opened*

 *print an error message*

*return the file handle.*

**Function:** GetPhrase

Narrative: Read the next phrase from the file.

Input: the file stream.

Output: A bool, true if the operation was successful and false othewse

 A string representing the phrase that was input or an empty stirng.

*Get a line from the file*

 *if not successful*

 *phrase = “”*

 *return false*

*else return true.*

**Function:** PrintResults

Narrative: Print a phrase and the classification of the phrase

Input: A string, the phrase and a PallindromeT, the classification

Output: none