PROGRAMMING WITH STRUCTURED DATA TYPES [CCPROG2]

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Test Script

Function Name	#	Test Description	Sample Input	Expected Output	Actual Output	P/F
removeNewLine	1	The string has the newline character after a letter.	str, contains "hello\n".	str is updated to "hello".	str is updated to "hello".	P
	2	The string has a newline character after a symbol.	str, contains "love3\n".	str is updated to "love3".	str is updated to "love3".	P
	3	The string has a newline character in-between characters.	str, contains "mahal\nin".	str is updated to "mahal".	str is updated to "mahal".	P
titleCase	1	The string has all of its characters lowercased.	str, contains "english".	str is updated to "English".	str is updated to "English".	P
	2	The string has all of its characters capitalized.	str, contains "KAPAMPANGAN".	str is updated to "Kapampangan".	str is updated to "Kapampangan".	P
	3	The string has mixed capital and lowercase letters.	str, contains "CEbUanO".	str is updated to "Cebuano".	str is updated to "Cebuano".	P
lowercase	1	The string has all of its characters lowercased.	str, contains "puso".	str is updated to "puso".	str is updated to "puso".	P
	2	The string has all of its characters capitalized.	str, contains "KAPATID".	str is updated to "kapatid".	str is updated to "kapatid".	P
	3	The string has mixed capital and lowercase letters.	str, contains "caLCUlaToR".	str is updated to "calculator".	str is updated to "calculator".	P
getStrInput	1	The length of the user input is greater than the maximum length passed to the function.	The user inputs "institutionalizations", maxStrLen contains 21, and minStrLen contains 1.	The system informs the user to input a string within the given range, and gets input from the user again.	The system informs the user to input a string within the given range, and gets input from the user again.	P
	2	The length of the user input is less than the minimum length passed to the function.	The user inputs "file", maxStrLen contains 31, and minStrLen contains 5.	The system informs the user to input a string within the given range, and gets input from the user again.	The system informs the user to input a string within the given range, and gets input from the user again.	P
	3	The length of the user input is valid.	The user inputs "English", maxStrlen contains 21, and minStrLen contains 1.	str is updated to "English".	str is updated to "English".	P
getIntInput	1	The number input is greater than the specified maximum number.	The user inputs 233, min contains 1, and max contains 150.	The system asks the user to input another number.	The system asks the user to input another number.	P
	2	The number input is less than the specified minimum number.	The user inputs -44, min contains 1, and max contains 10.	The system asks the user to input another number.	The system asks the user to input another number.	P
	3	The number input is within the specified minimum and maximum number.	The user inputs 2, min contains 1, and max contains 3.	The function returns 2.	The function returns 2.	P
getCharInput	1	The input is a valid single character.	Input is "Y".	The function returns 'Y'.	The function returns 'Y'.	P
	2	The user accidentally placed a space after the character.	Input is "n ".	The function informs the user to input only 1 character, then asks the user to input again.	The function informs the user to input only 1 character, then asks the user to input again.	P
	3	The input is NULL (the user presses the enter button without input).	Input is "".	The function informs the user to input only 1 character, then asks the user to input again.	The function informs the user to input only 1 character, then asks the user to input again.	P
	1	The source language and translation have lengths greater than 10 with all letters capitalized.	srcLang contains "LUXEMBOURGISH", and srcTL contains "INSTITUTIONEN".	destLang is updated to "LUXEMBOURGISH", and destTL is updated to "INSTITUTIONEN".	destLang is updated to "LUXEMBOURGISH", and destTL is updated to "INSTITUTIONEN".	P

copyLangTLPair	2	The source language and translation have lengths less than 10 with letters mixed lowercased and capitalized.	srcLang contains "ENgliSh", and srcTL contains "lOve".	destLang is updated to "ENgliSh", and destTL is updated to "lOve".	destLang is updated to "ENgliSh", and destTL is updated to "lOve".	P
	3	The source language and translation have no string values (NULL).	srcLang contains "", and srcTL contains "".	destLang is updated to "", and destTL is updated to "".	destLang is updated to "", and destTL is updated to "".	P
clearLangTLPair	1	The pairs have no string values.	lang contains "", and tl contains "".	lang and tl retain its string values of "".	lang and tl retain its string values of "".	P
	2	The pairs have string lengths greater than 10.	lang contains "Luxembourgish", and tl contains "institutionen".	lang is updated to "", and tl is updated to "".	lang is updated to "", and tl is updated to "".	P
	3	The pairs have string lengths less than 10.	lang contains "Tagalog", and tl contains "kape".	lang is updated to "", and tl is updated to "".	lang is updated to "", and tl is updated to "".	P
clearEntry	1	The given entry has no initialized language-translation pairs.	givenEntry->count contains 0.	givenEntry->count retains its value of 0 and the string values of both language and translation remains uninitialized.	givenEntry->count retains its value of 0 and the string values of both language and translation remains uninitialized.	P
	2	The given entry has at least one initialized language-translation pair.	givenEntry->count contains 5.	givenEntry->count becomes 0 and all string values of both language and translation becomes uninitialized.	givenEntry->count becomes 0 and all string values of both language and translation becomes uninitialized.	P
	3	The given entry has the maximum initialized language-translation pairs.	givenEntry->count contains 10.	givenEntry->count becomes 0 and all string values of both language and translation becomes uninitialized.	givenEntry->count becomes 0 and all string values of both language and translation becomes uninitialized.	P
getMainChoice	1	The integer is greater than the specified range.	*pMainChoice contains 144.	The function asks the user to input a number between 1 to 3 only.	The function asks the user to input a number between 1 to 3 only.	P
	2	The integer is less than the specified range.	*pMainChoice contains -10.	The function asks the user to input a number between 1 to 3 only.	The function asks the user to input a number between 1 to 3 only.	P
	3	The integer is within the specified range.	*pMainChoice contains 3.	The actual parameter, nMainChoice, is updated to 3.	The actual parameter, nMainChoice, is updated to 3.	P
getTransChoice	1	The integer is greater than the specified range.	*pTransChoice contains 9.	The function asks the user to input a number between 1 to 2 only.	The function asks the user to input a number between 1 to 2 only.	P
	2	The integer is less than the specified range.	*pTransChoice contains 0.	The function asks the user to input a number between 1 to 2 only.	The function asks the user to input a number between 1 to 2 only.	P
	3	The integer is within the specified range.	*pTransChoice contains 1.	The actual parameter, nTransChoice, is updated to 1.	The actual parameter, nTransChoice, is updated to 1.	P
getManageChoice	1	The integer is greater than the specified range.	*pManageChoice contains 36.	The function asks the user to input a number between 1 to 10 only.	The function asks the user to input a number between 1 to 10 only.	P
	2	The integer is less than the specified range.	*pManageChoice contains -100.	The function asks the user to input a number between 1 to 10 only.	The function asks the user to input a number between 1 to 10 only.	P
	3	The integer is within the specified range.	*pManageChoice contains 7.	The actual parameter, nManageChoice, is updated to 7.	The actual parameter, nManageChoice, is updated to 7.	P
getLangTrans	1	Both strings have lengths less than or equal to 20, and the cases of the letters are mixed capital and lowercase.	tempLangVar contains "enGIIsH" and tempTransVar contains "LoVE" after getting user inputs.	tempLangVar is updated to "English" and tempTransVar is updated to "love".	tempLangVar is updated to "English" and tempTransVar is updated to "love".	P
	2	The translation string has surpassed the maximum length allowed (20), while the language string is under the maximum length.	tempLangVar contains "tAgAlog" and tempTransVar contains "pinakanakapagpapangiti" after getting user inputs.	tempLangVar is updated to "Tagalog" while the system asks the user to input a translation that is within the specified length.	tempLangVar is updated to "English" while the system asks the user to input a translation that is within the specified length.	P

	3	The language string is less than the minimum length possible.	tempLangVar contains "". tempTransVar will remain uninitialized as it won't be asked for user input until tempLangVar is valid.	The system asks the user to input a language that is within the specified length.	The system asks the user to input a language that is within the specified length.	P
getDispChoice	1	The current index of the entry is the last index of the initialized entry, and the character input is a valid command character.	nIndex contains 5, nEntryCount contains 5, and *pDispChoice contains 'P' after getting user input.	The system displays P or X as the possible commands, then the actual parameter, cDispChoice updates its value to 'P'.	The system displays P or X as the possible commands, then the actual parameter, cDispChoice updates its value to 'P'.	P
	2	The current index of the entry is the first index of the initialized entry, and the character input is a valid command character.	nIndex contains 0, nEntryCount contains 10, and *pDispChoice contains 'x' after getting user input.	The system displays N or X as the possible commands, then the actual parameter, cDispChoice updates its value to 'X'.	The system displays N or X as the possible commands, then the actual parameter, cDispChoice updates its value to 'X'.	P
	3	The current index of the entry is between 0 to the number matched entries, while the character input is an invalid symbol.	nIndex contains 15, nEntryCount contains 20, and *pDispChoice contains 'n' after getting user input.	The system displays P, N, or X as the possible commands, then the actual parameter, cDispChoice updates its value to 'N'.	The system displays P, N, or X as the possible commands, then the actual parameter, cDispChoice updates its value to 'N'.	P
getUserConfirmation	1	The input is a valid single character, saying yes to the question.	input contains 'Y'.	The function returns 1.	The function returns 1.	P
	2	The user inputs an invalid character, not within the choices.	input contains 'Q'	The function asks for another input from the user that is valid.	The function asks for another input from the user that is valid.	P
	3	The input is a valid single character, saying no to the question.	input contains 'n'.	The function returns 0.	The function returns 0.	P
isNewEntry	1	The user inputs an invalid character, not within the choices.	Input contains 'p'.	The function asks for another input from the user that is valid.	The function asked for another input from the user that was valid.	P
	2	The user's input is valid, saying that it is for a new entry.	Input contains 'Y'.	The function returns 1.	The function returned 1.	P
	3	The user's input is valid, saying that it is not for a new entry.	input contains 'n'.	The function returns 0.	The function returned 0.	P
assignNewEntries	1	The entry being assigned to is the first entry of the array with its first language-translation pair.	nEntryCount contains 0 and entries [nEntryCount]. count contains 0.	The language-translation pairs at index 0 of entries[0] gets initialized and entries [nEntryCount].count becomes 1.	The language-translation pairs at index 0 of entries[0] gets initialized and entries [nEntryCount].count becomes 1.	P
	2	The entry being assigned to is the last initialized entry with its fifth language-translation pair.	nEntryCount contains 20 and entries [nEntryCount]. count contains 4.	The language-translation pairs at index 4 of entries[20] gets initialized and entries [nEntryCount].count becomes 5.	The language-translation pairs at index 4 of entries[20] gets initialized and entries [nEntryCount].count becomes 5.	P
	3	The entry being assigned to is the last initialized entry with its last language-translation pair.	nEntryCount contains 30 and entries [nEntryCount]. count contains 9.	The language-translation pairs at index 9 of entries[30] gets initialized and entries [nEntryCount].count becomes 10.	The language-translation pairs at index 9 of entries[30] gets initialized and entries [nEntryCount].count becomes 10.	P
addMoreTrans	1	The count for the specific entry currently being modified is 1.	entries [nEntryCount]. count contains 1.	The function should immediately ask the user to add another pair, and the language and translation with index 1 is updated with the string value inputs.	The function immediately asked the user to add another pair, and the language and translation with index 1 is updated with the string value inputs.	P
	2	The count for the specific entry currently being modified is a number between 1 and MAX_COUNT.	entries [nEntryCount]. count contains 5.	The function should ask the user first if they want to add more, before asking for the string inputs.	The function asked the user first if they want to add more, before asking for the string inputs.	P
	3	The count for the specific entry currently being modified is equal to MAX_COUNT.	entries [nEntryCount]. count contains 10.	The function should do effectively nothing and the system returned to the Manage Data menu.	The function did effectively nothing and the system returned to the Manage Data menu.	P
	1	The integer is less than the minimum number of matches.	nMatches contains 1 and *nChoice contains -5 after user input.	The function asks the user to input another integer.	The function asks the user to input another integer.	P

getEntryChoice	2	The integer is greater than the number of matches.	nMatches contains 6 and *nChoice contains 15 after user input.	The function asks the user to input another integer.	The function asks the user to input another integer.	P
	3	The integer is less than the number of matches but greater than the minimum number of matches.	nMatches contains 10 and *nChoice contains 3 after user input.	The actual parameter, nEntryChoice, updates its value to arrMatched[nChoice - 1].	The actual parameter, nEntryChoice, updates its value to arrMatched[nChoice - 1].	P
isLangInEntry	1	The language string is in the entry once.	strLang contains "English" and entries[25].lang[0] contains "English".	The function iterates through the languages from the first index until index 0 only. The function then returns 1.	The function iterates through the languages from the first index until index 0 only. The function then returns 1.	P
	2	The language string is not in the entry.	strLang contains "Tagalog" and none of the entries contain "Tagalog".	The function returns 0.	The function returns 0.	P
	3	The language string is in the entry twice.	strLang contains "Kapampangan" and entries[2].lang[2] and entries[2].lang[5] both contains "Kapampangan"	The function iterates through the languages from the first index until index 2 only. The function then returns 1.	The function iterates through the languages from the first index until index 2 only. The function then returns 1.	P
swapEntry	1	The first index is less than the second index.	nIndex1 contains 0 and nIndex2 contains 4.	entries[0] should now have the string values and pair count of entries[4], and coversely.	entries[0] now have the string values and pair count of entries [4], and coversely.	P
	2	The first index is greater than the second index.	nIndex1 contains 15 and nIndex2 contains 3.	entries[15] should now have the string values and pair count of entries[3], and coversely.	entries[15] now have the string values and pair count of entries [3], and coversely.	P
	3	The first index and the second index are equal	nIndex1 contains 33 and nIndex2 contains 33.	The string values and pair count of entries[33] should remain the same.	The string values and pair count of entries[33] remained the same.	P
swapLangTrans	1	The first index is less than the second index.	nIndex1 contains 1 and nIndex2 contains 3.	entries[nEntryIndex].lang[1] and entries[nEntryIndex].trans[1] should now have the string values of entries[nEntryIndex].lang[3] and entries[nEntryIndex].trans[3], and conversely.	entries[nEntryIndex].lang[1] and entries[nEntryIndex].trans[1] now have the string values of entries [nEntryIndex].lang[3] and entries [nEntryIndex].trans[3], and conversely.	P
	2	The first index is greater than the second index.	nIndex1 contains 8 and nIndex2 contains 0.	entries[nEntryIndex].lang[8] and entries[nEntryIndex].trans[8] should now have the string values of entries[nEntryIndex].lang[0] and entries[nEntryIndex].trans[0], and conversely.	entries[nEntryIndex].lang[8] and entries[nEntryIndex].trans[8] now have the string values of entries [nEntryIndex].lang[0] and entries [nEntryIndex].trans[0], and conversely.	P
	3	The first index and the second index are equal	nIndex1 contains 7 and nIndex2 contains 7.	entries[nEntryIndex].lang[7] and entries[nEntryIndex].trans[7] should retain their initial values.	entries[nEntryIndex].lang[7] and entries[nEntryIndex].trans[7] retained their initial values.	P
arrangeInterEnt	1	The entries with the language "English" are placed in front of the array while those that without are all placed at the back.	entries array consists of: {With Eng, With Eng, With Eng, With Eng, With Eng, No Eng, No Eng, No Eng}	entries array now consists of: {With Eng, With Eng, With Eng, With Eng, With Eng, No Eng, No Eng, No Eng}	entries array now consists of: {With Eng, With Eng, With Eng, With Eng, With Eng, No Eng, No Eng, No Eng}	P
	2	The entries with the language "English" are placed at the back while arrays without are placed in front.	entries array consists of: {No Eng, No Eng, No Eng, With Eng, With Eng, With Eng}	entries array now consists of: {With Eng, With Eng, With Eng, No Eng, No Eng, No Eng} with the entries with the language "English" in it arranged based on what was first entered / imported / added.	entries array now consists of: {With Eng, With Eng, With Eng, No Eng, No Eng, No Eng} with the entries with the language "English" in it arranged based on what was first entered / imported / added.	P
	3	The entries array have inconsistent order of entries with what has "English" and what has none.	entries array consists of: {No Eng, With Eng, With Eng, No Eng, No Eng, With Eng, No Eng, With Eng}	entries array now consists of: {With Eng, With Eng, With Eng, With Eng, No Eng, No Eng, No Eng, No Eng} with the entries with the language "English" in it arranged based on what was first entered / imported / added.	entries array now consists of: {With Eng, With Eng, With Eng, With Eng, No Eng, No Eng, No Eng, No Eng} with the entries with the language "English" in it arranged based on what was first entered / imported / added.	P

arrangeIntraEnt	1	The languages of the entry being modified is increasing in terms of alphabetical order.	The entry contains: {Cebuano, Hiligaynon, Ilokano, Japanese, Portuguese, Spanish, Vietnamese} with each of their corresponding translation having the same index as them.	The entry now contains: {Cebuano, Hiligaynon, Ilokano, Japanese, Portuguese, Spanish, Vietnamese} with each of their corresponding translation having the same index as them.	The entry now contains: {Cebuano, Hiligaynon, Ilokano, Japanese, Portuguese, Spanish, Vietnamese} with each of their corresponding translation having the same index as them.	P
	2	The languages of the entry being modified is decreasing in terms of alphabetical order.	The entry contains: {Vietnamese, Spanish, Portuguese, Japanese, Ilokano, Hiligaynon, Cebuano} with each of their corresponding translation having the same index as them.	The entry now contains: {Vietnamese, Cebuano, Hiligaynon, Ilokano, Japanese, Portuguese, Spanish} with each of their corresponding translation having the same index as them.	The entry now contains: {Vietnamese, Cebuano, Hiligaynon, Ilokano, Japanese, Portuguese, Spanish} with each of their corresponding translation having the same index as them.	P
	3	The languages of the entry being modified is in random order.	The entry contains: {Turkish, French, Norweigan, English, Hungarian, Arabic, Indonesian, Tagalog} with each of their corresponding translation having the same index as them.	The entry now contains: {Turkish, Arabic, English, French, Hungarian, Indonesian, Norweigan, Tagalog} with each of their corresponding translation having the same index as them.	The entry now contains: {Turkish, Arabic, English, French, Hungarian, Indonesian, Norweigan, Tagalog} with each of their corresponding translation having the same index as them.	P
getDelChoice	1	The integer input is greater than the number of entries currently initialized.	nEntryCount contains 5 and *nDelChoice contains 9 after getting user input.	The function returns 0.	The function returns 0.	P
	2	The integer input is less than the minimum number of entries initialized.	nEntryCount contains 28 and *nDelChoice contains 0 after getting user input.	The function returns 0.	The function returns 0.	P
	3	The integer input is greater than the minimum number of entries initialized and less than the current number of entries initialized,	nEntryCount contains 30 and *nDelChoice contains 2 after getting user input.	The function returns 1.	The function returns 1.	P
deleteEntry	1	The entry being deleted is the the last initialized entry in the array of entries.	nEntryCount contains 14 and nDelChoice contains 14.	The pair count of entries[13] becomes 0 and its string values become deleted.	The pair count of entries[13] becomes 0 and its string values become deleted.	P
	2	The entry being deleted is the first entry in the array of entries.	nEntryCount contains 3 and nDelChoice contains 1.	Every initialized entry starting with the index 1 should move forward (i.e., the entry in entries[1] now becomes entries[0] and so on...) and the pair count and string values of entries[2] becomes deleted.	Every initialized entry starting with the index 1 moved forward (i.e., the entry in entries[1] now becomes entries[0] and so on...) and the pair count and string values of entries[2] becomes deleted.	P
	3	The entry being deleted is the middle entry in the array of entries.	nEntryCount contains 7 and nDelChoice contains 4.	Every initialized entry starting with the index 4 should move forward (i.e., the entry in entries[4] now becomes entries[3] and so on...) and the pair count and string values of entries[6] becomes deleted.	Every initialized entry starting with the index 4 should move forward (i.e., the entry in entries[4] now becomes entries[3] and so on...) and the pair count and string values of entries[6] becomes deleted.	P

getDelIndex	1	The integer input is greater than the number of pairs currently initialized in the entry.	entries [nDelChoice - 1]. count contains 10 and *nDelIndex contains 11 after getting user input.	The function should notify the user about the invalid input and ask the user if they still want to delete.	The function notified the user about the invalid input and asked the user if they still want to delete.	P
	2	The integer input is less than the minimum number of pairs per entry.	entries [nDelChoice - 1]. count contains 15 and *nDelIndex contains 0 after getting user input.	The function should notify the user about the invalid input and ask the user if they still want to delete.	The function notified the user about the invalid input and asked the user if they still want to delete.	P
	3	The integer input is greater than the minimum number of entries initialized and less than the current number of entries initialized,	entries [nDelChoice - 1]. count contains 20 and *nDelIndex contains 3 after getting user input.	The actual parameter, nDelIndex, updates its value to 3 and the function returns 1.	The actual parameter, nDelIndex, updates its value to 3 and the function returns 1.	P
deleteTrans	1	The pair being deleted is the last language-translation pair in the entry.	entries [nDelChoice]. count contains 5 and nDelIndex contains 5.	The language-translation pair at index 4 should be deleted and entries[nDelChoice].count should now contain 4.	The language-translation pair at index 4 is deleted and entries [nDelChoice].count now contains 4.	P
	2	The pair being deleted is the first language-translation pair in the entry.	entries [nDelChoice]. count contains 10 and nDelIndex contains 1.	The system informs the user that they cannot delete the "source" language-translation pair of an entry and asks the user if they still want to delete a pair.	The system informed the user that they cannot delete the "source" language-translation pair of an entry and asked the user if they still want to delete a pair.	P
	3	The pair being deleted is the middle language-translation pair in the entry.	entries [nDelChoice]. count contains 9 and nDelIndex contains 5.	Every initialized language-translation pair starting at index 5 should move forward (i.e., entries [nDelChoice].lang[5] now becomes entries[nDelChoice]. lang[4] and the same happens with the trans variables) and the pair at index 8 should be deleted. entries[nDelChoice].count should now contain 8.	Every initialized language-translation pair starting at index 5 moved forward (i.e., entries [nDelChoice].lang[5] became entries[nDelChoice].lang[4] and the same happened with the trans variables) and the pair at index 8 is now deleted. entries [nDelChoice].count now contains 8.	P
isPairInEntry	1	The starting point of the search is equal to the end point of the search, and the matching pair is located at the first part of the entry.	start contains 0, end contains 0. lang contains "Tagalog" and tl contains "mahal".	The function should return 0.	The function returns 0.	P
	2	The end point of the search is the count of pairs in the entry, and a matching pair is located at the last part of the entry.	start contains 0, end initially contains -1 but gets re-initialized to 9 through if condition. lang contains "Chinese" and tl contains "ai".	The function should return 9 (index of the pair in the entry).	The function returns 9 (index of the pair in the entry).	P
	3	The starting point of the search is equal to the end point of the search, and the matching pair is not located in any part of the entry.	start contains 0, end contains 0. lang contains "Cebuano" and tl contains "gugma".	The function should return -1.	The function returns -1.	P
findPairInAllEntries	1	There are three instances of the pair being searched.	tempLangVar contains "Tagalog" and tempTransVar contains "mahal". entries at indices 5, 10, and 15 contain this pair.	arrMatched[0] becomes 5, arrMarched[1] becomes 10, arrMatched[2] becomes 15, and *pMatches updates its value to 3. The function returns 1.	arrMatched[0] becomes 5, arrMarched[1] becomes 10, arrMatched[2] becomes 15, and *pMatches updates its value to 3. The function returns 1.	P
	2	There are no instances of the pair being searched.	tempLangVar contains "French" and tempTransVar contains "au revoir". entries at all indices do not contain this pair.	The function should return 0.	The function returns 0.	P

	3	There is one instance of the pair being searched.	tempLangVar contains "Spanish" and tempTransVar contains "gracias". entry at index 29 contain this pair.	arrMatched[0] becomes 29 and *pMatches updates its value to 1. The function returns 1.	arrMatched[0] becomes 29 and *pMatches updates its value to 1. The function returns 1.	P
isWordInEntry	1	The starting point of the search is equal to the end point of the search, and the matching word is located at the first part of the entry.	start contains 0, end contains 0. tl contains "track".	The function should return 0.	The function returns 0.	P
	2	The end point of the search is the count of translations in the entry, and a matching word is located at the last part of the entry.	start contains 0, end initially contains -1 but gets re-initialized to 7 through if condition. tl contains "ai".	The function should return 7 (index of the pair in the entry).	The function returns 7 (index of the pair in the entry).	P
	3	The starting point of the search is equal to the end point of the search, and the matching word is not located in any part of the entry.	start contains 0, end contains 0. lang contains "Cebuano" and tl contains "amour".	The function should return -1.	The function returns -1.	P
findWordInAllEntries	1	There are three instances of the word being searched with each in different entry.	strKey contains "mahal". entries at indices 3, 19, and 44 contain this pair.	arrMatched[0] becomes 3, arrMarched[1] becomes 19, arrMatched[2] becomes 44, and *pMatches updates its value to 3. The function returns 1.	arrMatched[0] becomes 3, arrMarched[1] becomes 19, arrMatched[2] becomes 44, and *pMatches updates its value to 3. The function returns 1.	P
	2	There are no instances of the word being searched.	strKey contains "au revoir". entries at all indices do not contain this pair.	The function should return 0.	The function returns 0.	P
	3	There is one instance of the word being searched.	strKey contains "gracias". entry at index 11 contain this pair.	arrMatched[0] becomes 11 and *pMatches updates its value to 1. The function returns 1.	arrMatched[0] becomes 11 and *pMatches updates its value to 1. The function returns 1.	P
getKey	1	The key has length greater than MAX_TL_LEN and the cases of the letters are mixed capital and lowercase.	strKey contains "inStiTuTIoNaliZAtiOns" after getting user input.	The system asks the user to input a word that is within the specified length.	The system asks the user to input a word that is within the specified length.	P
	2	The key has length less than MIN_TL_LEN.	strKey contains "" after getting user input.	The system asks the user to input a word that is within the specified length.	The system asks the user to input a word that is within the specified length.	P
	3	The key has a valid length and the cases of the letters are all capitalized.	strKey contains "HELLO".	The actual parameter, strKey, is updated to "hello".	The actual parameter, strKey, is updated to "hello".	P
getLang	1	The language has length greater than MAX_LANG_LEN and the cases of the letters are mixed capital and lowercase.	strLang contains "tHiSisnOtArEaLlangUAGe" after getting user input.	The system asks the user to input a language that is within the specified length.	The system asks the user to input a language that is within the specified length.	P
	2	The language has length less than MIN_LANG_LEN.	strLang contains "" after getting user input.	The system asks the user to input a language that is within the specified length.	The system asks the user to input a language that is within the specified length.	P
	3	The language has a valid length and the cases of the letters are all capitalized.	strLang contains "CEBUANO".	The actual parameter, strLang, is updated to "Cebuano".	The actual parameter, strLang, is updated to "Cebuano".	P
emptyEntry	1	There are no entries.	The entries array are all uninitialized and nEntryCount is 0.	The function effectively does nothing.	The function effectively did nothing.	P
	2	There is a single entry initialized.	Only the first element in the entries array is initialized and nEntryCount is 1.	The function clears the first entry and sets nEntryCount to 0.	The function cleared the first entry and set nEntryCount to 0.	P
	3	There are multiple entries initialized.	The first five elements in the entries are initialized and nEntryCount is 5.	The function clears the first five entries in the array and sets nEntryCount to 0.	The function cleared the first five entries in the array and set nEntryCount to 0.	P
	1	The filename string is of insufficient length.	tempFile contains "a".	The function returns 0.	The function returned 0.	P

isExtPresent	2	The filename string is of sufficient length but does not have the text file extension (.txt).	tempFile contains "apples".	The function returns 0.	The function returned 0.	P
	3	The filename string is of sufficient length and has the text file extension.	tempFile contains "samplefile.txt".	The function returns 1.	The function returned 1.	P
isInvCharPres	1	The string has no invalid filename characters.	tempFile contains "samplefile.txt".	The function returns 0.	The function returned 0.	P
	2	The string has some invalid characters.	tempFile contains "/samplefile/*".	The function returns 1.	The function returned 1.	P
	3	The string is entirely composed of invalid characters.	tempFile contains "???///".	The function returns 1.	The function returned 1.	P
getFilename	1	The string the user entered does not have the text file extension (.txt).	The user enters "samplefile".	The user is informed that the string does not have the file extension and they are asked for input again.	The user was informed that the string did not have the file extension and they were asked for input again.	P
	2	The string the user entered has invalid filename characters (e.g. '?').	The user enters "samplefile?.txt".	The user is informed that the string has invalid filename characters and they are asked for input again.	The user was informed that the string had invalid filename characters and they were asked for input again.	P
	3	The string the user entered was valid.	The user enters "samplefile.txt".	The string the user entered is copied to the actual variable that will store the filename.	The string the user entered was copied to the actual variable that stored the filename.	P
removeSymbols	1	The string has no symbols.	strText contains "hello".	strText is retained.	strText was retained.	P
	2	The string has some symbols.	strText contains "hello, who are you?".	strText is updated to "hello who are you".	strText was updated to "hello who are you".	P
	3	The string is entirely composed of symbols.	strText contains ".,?!".	strText is updated to "" (a null string).	strText was updated to "" (a null string).	P
addEntryFeat	1	The obtained language-translation pair is not found in the list of entries.	N/A	The function immediately adds the given language-translation pair to a new entry. The function then asks the user for a new language-translation pair.	The function immediately added the given language-translation pair to a new entry. The function then asked the user for a new language-translation pair.	P
	2	The obtained language-translation pair was found in the list of entries. The user says it is for a new entry.	N/A	The function asks the user if the language-translation pair is for a new entry. The function asks the user if it is for a new entry, and the user says yes. The language-translation pair is added to a new entry and the user is asked for more language-translation pairs.	The function asked the user if the language-translation pair was for a new entry. The function asked the user if it was for a new entry, and the user said yes. The language-translation pair was added to a new entry and the user was asked for more language-translation pairs.	P
	3	There are already MAX_ENTRIES entries in the system.	N/A	The function notifies the user of having reached the maximum amount of entries and terminates early.	The function notified the user of having reached the maximum amount of entries and terminated early.	P
addTransFeat	1	The entry being added to already has 10 language-translation pairs.	N/A	The function notifies the user that the chosen entry already has reached the maximum possible pairs before going back to the Manage Data menu.	The function notified the user that the chosen entry already has reached the maximum possible pairs before going back to the Manage Data menu.	P
	2	The obtained language-translation pair is not found in the list of entries.	tempLangVar contains "Tagalog" and tempTransVar contains "bukid".	The function notifies the user that the entry does not exist and that they must first use the 'Add Entry' feature before going back to the Manage Data menu.	The function notified the user that the entry does not exist and that they must first use the 'Add Entry' feature before going back to the Manage Data menu.	P
	3	The obtained language-translation pair is found in the entry twice.	tempLangVar contains "Tagalog" and tempTransVar contains "mahal".	The function first asks the user which entry do they want to add a translation to before asking for the language-translation pair input that will be added.	The function first asked the user which entry do they want to add a translation to, then asked for the language-translation pair input that will be added.	P
deleteEntryFeat	1	There are still no entries added in the system.	N/A	The function informs the user that they cannot delete anything yet before going back to the Manage Data menu.	The function informed the user that they cannot delete anything yet before going back to the Manage Data menu.	P
	2	The entry choice to be deleted is invalid or out of range of the possible numbers of entry.	nDelChoice contains 59 and *nEntryCount contains 30.	The function informs the user that the input is invalid before going back to the Manage Data menu.	The function informs the user that the input is invalid before going back to the Manage Data menu.	P

	3	The entry choice to be deleted is valid or within the range of the possible numbers of entry.	nDelChoice contains 10 and *nEntryCount contains 15.	entries[9] becomes deleted, *nEntryCount now becomes 14, and the function informs the user of the successful deletion before going back to the Manage Data menu.	entries[9] becomes deleted, *nEntryCount now becomes 14, and the function informs the user of the successful deletion before going back to the Manage Data menu.	P
deleteTransFeat	1	There are still no entries added in the system.	N/A	The function informs the user that they cannot delete anything yet before going back to the Manage Data menu.	The function informed the user that they cannot delete anything yet before going back to the Manage Data menu.	P
	2	The entry choice entered is valid, but the index chosen to be deleted in the entry is the "source" language-translation pair.	nDelChoice contains 3, *nEntryCount contains5, and nDelIndex contains 1.	The function should inform the user that the input is invalid and ask if they still want to delete translation.	The function should inform the user that the input is invalid and ask if they still want to delete translation.	P
	3	The entry choice entered and the index of the pair to be deleted are both valid	nDelChoice contains 2, *nEntryCount contains 13, nDelIndex contains 3, and entries[1].count contains 6.	entries[1].lang[2] and entries[1]. trans[2] becomes deleted and entries[1].count should now be 5. The function then asks if they still want to delete more.	entries[1].lang[2] and entries[1]. trans[2] becomes deleted and entries[1].count should now be 5. The function then asks if they still want to delete more.	P
displayAllFeat	1	There are still no entries added in the system.	nEntryCount contains 0.	The function informs the user that there is nothing to display yet before going back to the Manage Data menu.	The function informed the user that there is nothing to display yet before going back to the Manage Data menu.	P
	2	There is just one added entry in the system.	nEntryCount contains 1.	The function displays entries[0] to the user with only "X - Exit" as the command.	The function displays entries[0] to the user with only "X - Exit" as the command.	P
	3	There are multiple entries added in the system.	nEntryCount contains 10	The function first displays entries [0] to the user then displays "N - Next" and "X - Exit" as the following commands. The function should continue displaying, with correct respective displayed commands, until the user chooses to exit.	The function first displays entries [0] to the user then displays "N - Next" and "X - Exit" as the following commands. The function should continue displaying, with correct respective displayed commands, until the user chooses to exit.	P
searchWordFeat	1	The word being searched is not in the entry.	strKey contains "labab o".	The function informs the user that there are no matches of the word entered before going back to the Manage Data menu.	The function informed the user that there are no matches of the word entered before going back to the Manage Data menu.	P
	2	The word being searched is in the entry once.	strKey contains "expensive".	The function displays the whole entry where the word is found, then displays only "X - Exit" as the command.	The function displays the whole entry where the word is found, then displays only "X - Exit" as the command.	P
	3	The word being searched is in the entry thrice, each appearing at different entries.	strKey contains "mahal".	The function first displays the whole entry of the first match found, then displays "N - Next" and "X - Exit" as the commands. The commands should now have "P - Previous" once the user enters next once.	The function first displayed the whole entry of the first match found, then displays "N - Next" and "X - Exit" as the commands. The commands now have "P - Previous" once the user enters next once.	P
searchTransFeat	1	The language-translation pair being searched is not in the entry.	tempLangVar contains "Tagalog" and tempTransVar contains "labab o".	The function informs the user that there are no matches of the pair entered before going back to the Manage Data menu.	The function informed the user that there are no matches of the pair entered before going back to the Manage Data menu.	P
	2	The language-translation pair being searched is in the entry once.	tempLangVar contains "English" and tempTransVar contains "expensive".	The function displays the whole entry where the pair is found, then displays only "X - Exit" as the command.	The function displays the whole entry where the pair is found, then displays only "X - Exit" as the command.	P
	3	The language-translation pair being searched is in the entry thrice, each appearing at different entries.	tempLangVar contains "Tagalog" and tempTransVar contains "mahal".	The function first displays the whole entry of the first match found, then displays "N - Next" and "X - Exit" as the commands. The commands should now have "P - Previous" if the user enters next once.	The function first displayed the whole entry of the first match found, then displays "N - Next" and "X - Exit" as the commands. The commands now have "P - Previous" if the user enters next once.	P
	1	There are still no entries added to the system.	nEntryCount contains 0.	The function should inform the user that there are no entries to export yet, before going back to the Manage Data menu.	The function should inform the user that there are no entries to export yet, before going back to the Manage Data menu.	P

exportFeat	2	There is one entry added to the system but the filename entered has invalid filename characters in it.	nEntryCount contains 1 and filename contains "trans?la/tions.txt"	The function should inform the user that the entered filename contains invalid characters in it, then it should ask again for another filename with the file extension.	The function informed the user that the entered filename contains invalid characters in it, then it asked again for another filename with the file extension.	P
	3	There are multiple entries added to the system and the filename entered is valid.	nEntryCount contains 15.	The function should display a message that the export was successful before going back to the Manage Data menu.	The function should display a message that the export was successful before going back to the Manage Data menu.	P
importFeat	1	The filename input does not exist within the same directory.	filename contains "idonotexist.txt"	The function should inform the user that the file does not exist before going back to the Manage Data menu.	The function informed the user that the file does not exist before going back to the Manage Data menu.	P
	2	There is only one loaded entry in the imported file.	filename contains "sample2.txt"	The function should inform the user that the file successfully opened, and it should ask if they want to add the currently loaded entry.	The function informed the user that the file successfully opened, and it asked if they want to add the currently loaded entry.	P
	3	There are multiple entries loaded in the imported file.	filename contains "sample3.txt"	The function should inform the user that the file successfully opened, and it should repeatedly ask if they want to add the currently loaded entry as the function goes through all entries in the file.	The function informed the user that the file successfully opened, and it repeatedly asked if they want to add the currently loaded entry as the function goes through all entries in the file.	P
translateFeat	1	The user wants to translate the text from English to Tagalog. The text to be translated contains symbols in it, and each word all have corresponding translations.	strText contains "expensive, delicious, and colorful!"	The function should display "mahal masarap at makulay" before asking the user if they want to translate again with the same set of languages.	The function displayed "mahal masarap at makulay" before asking the user if they want to translate again with the same set of languages.	P
	2	The user wants to translate the text from Spanish to English. The text to be translated contains symbols in it, and only some words have corresponding translations.	strText contains "la noc.he es hermo??sa y bri! llante".	The function should display "la night es beautiful y bright" before asking the user if they want to translate again with the same set of languages.	The function displayed "la night es beautiful y bright" before asking the user if they want to translate again with the same set of languages.	P
	3	The user inputs nothing when asked what text to translate.	strText contains "".	The function informs the user to that the text should be between 1 and 150 characters before asking for user input again.	The function informed the user to that the text should be between 1 and 150 characters before asking for user input again.	P