

Function	#	Description	Sample Input Data	Expected Output	Actual Output
GetString	1	Input is any valid except 'ND'	mahal, max = 21	1	1
	2	Input is 'ND'	ND, max = 21	2	2
	3	Input is not within character range	Supercalifragilisticexpialidocious, max = 21	0	0
findPair	4	1 pair is found in the entry	English: love Japanese: ai Tagalog: mahal  language: Tagalog translation: mahal	2	2
	5	2 pairs are found in the entry	English: love Japanese: ai Tagalog: mahal Tagalog: mahal  language: Tagalog translation: mahal	2	2
	6	No pair were found in the entry	English: love Japanese: ai Tagalog: mahal  language: French translation: amor	-1	-1
addPair	7	Both language and translation typed is valid except for 'ND' language	language: Filipino translation: mahal	1	1
	8	Language typed is 'ND'	language: ND	2	2
	9	Either language or translation is invalid	language is "\n"	ERROR: Invalid input. and asks for input again	ERROR: Invalid input. and asks for input again
findMinPair	10	Min is neither in the first nor last index	English: love Tagalog: mahal Hiligaynon: gugma Cebuano: gugma Spanish: amor Chinese: ai	3	3

	11	min is in the first index	Cebuano: gugma English: love Tagalog: mahal Hiligaynon: gugma Spanish: amor Chinese: ai	0	0
	12	min is in the last index	English: love Tagalog: mahal Hiligaynon: gugma Spanish: amor Chinese: ai Cebuano: gugma	5	5
findLanguage	13	one pair of specified language exists in an entry	Tagalog: mahal Hiligaynon: gugma English: love Spanish: amor Chinese: ai Cebuano: gugma  specified language: English	2	2
	14	there are two or more pairs of specified language in an entry	English: adore Tagalog: mahal Hiligaynon: gugma English: love Spanish: amor Chinese: ai Cebuano: gugma  specified language: English	0	0
	15	no pairs were found with a specified language	Tagalog: mahal Hiligaynon: gugma Spanish: amor Chinese: ai Cebuano: gugma  specified language: English	-1	-1

findMinEntry	16	there is only one entry where english language exists	Tagalog : mahal Hiligaynon: gugma Spanish: amor Chinese: ai Cebuano: gugma  Tagalog: mahal Kapampangan: mal Cebuano: mahal English: expensive Chinese: gui	1	1
	17	there are more than one entry where english language exists	Tagalog : mahal Hiligaynon: gugma Spanish: amor Chinese: ai Cebuano: gugma  English: ball Filipino: bola  Tagalog: mahal Kapampangan: mal Cebuano: mahal English: expensive Chinese: gui	1	1
	18	there are no entries where english language exists	Tagalog : mahal Hiligaynon: gugma Spanish: amor Chinese: ai Cebuano: gugma  Tagalog: mahal Kapampangan: mal Cebuano: mahal Chinese: gui	0	0

sortEntries	19	there is only one entry where english language exists	Tagalog :mahal Hiligaynon: gugma Spanish: amor Chinese: ai Cebuano: gugma	Cebuano: mahal Chinese: gui English: expensive Kapampangan: mal Tagalog: mahal	Cebuano: mahal Chinese: gui English: expensive Kapampangan: mal Tagalog: mahal
			Tagalog: mahal Kapampangan: mal Cebuano: mahal English: expensive Chinese: gui	Cebuano: gugma Chinese: ai Hiligaynon: gugma Spanish: amor Tagalog: mahal	Cebuano: gugma Chinese: ai Hiligaynon: gugma Spanish: amor Tagalog: mahal
	20	there are more than one entry where english language exists	Tagalog :mahal Hiligaynon: gugma Spanish: amor Chinese: ai Cebuano: gugma	English: ball Filipino: bola  Cebuano: mahal Chinese: gui English: expensive Tagalog: mahal Kapampangan: mal	English: ball Filipino: bola  Cebuano: mahal Chinese: gui English: expensive Tagalog: mahal Kapampangan: mal
			Tagalog: mahal Kapampangan: mal Cebuano: mahal English: expensive Chinese: gui  English: ball Filipino: bola	Cebuano: gugma Chinese: ai Hiligaynon: gugma Spanish: amor Tagalog: mahal	Cebuano: gugma Chinese: ai Hiligaynon: gugma Spanish: amor Tagalog: mahal
	21	there are no entries where english language exists	Tagalog :mahal Hiligaynon: gugma Spanish: amor Chinese: ai Cebuano: gugma	Cebuano: gugma Chinese: ai Hiligaynon: gugma Spanish: amor Tagalog: mahal	Cebuano: gugma Chinese: ai Hiligaynon: gugma Spanish: amor Tagalog: mahal
			Tagalog: mahal Kapampangan: mal Cebuano: mahal Chinese: gui	Cebuano: mahal Chinese: gui Kapampangan: mal Tagalog: mahal	Cebuano: mahal Chinese: gui Kapampangan: mal Tagalog: mahal

translateWord			English: love Tagalog: mahal Japanese: ai Spanish: amor		
			Tagalog: mahal English: expensive		
	22	there exist one entry that matches the source word and source language, and it has an equivalent translation in its target language	source word: love source language: english target language: spanish	amor	amor
			English: love Tagalog: mahal Japanese: ai Spanish: amor		
			Tagalog: mahal English: expensive		
	23	there exist one entry that matches the source word and source language, but it does not have equivalent translation in its target language	source word: love source language: english target language: chinese	love	love
			English: love Tagalog: mahal Japanese: ai Spanish: amor		
			Tagalog: mahal English: expensive		
	24	there is no entry that matches the source word and source language	source word: work source language: english target language: tagalog	work	work

translateSentence	25	there are no symbols in the sentence	i love ccprog2	i mahal ccprog2	i mahal ccprog2
	26	there are symbols in the sentence	i love ccprog2!	i mahal ccprog2	i mahal ccprog2
	27	there is another sentence after a symbol	i love ccprog2! this item is too expensive.	i mahal ccprog2 this item is too mahal	i mahal ccprog2 this item is too mahal

Function	#	Description	Sample Input Data	Expected Output	Actual Output
ManageDataMenu	1	Tests wether ManageDataMenu function handles menu navigation based on user input. (1-9)	Please enter a number: 1 Please enter a number: 2 Please enter a number: 3 Please enter a number: 4 Please enter a number: 5 Please enter a number: 6 Please enter a number: 7 Please enter a number: 8 Please enter a number: 9	Please enter a number: 1 (Calls AddEntry) Please enter a number: 2 (Calls AddTranslations) Please enter a number: 3 (Calls DeleteEntry) Please enter a number: 4 (Calls DeleteTranslation) Please enter a number: 5 (Calls DisplayEntries) Please enter a number: 6 (Calls SearchWord) Please enter a number: 7 (Calls TranslationImportFile) Please enter a number: 8 (Calls ImportFile) Please enter a number: 9 (Calls ExportFile)	Please enter a number: 1 (Calls AddEntry) Please enter a number: 2 (Calls AddTranslations) Please enter a number: 3 (Calls DeleteEntry) Please enter a number: 4 (Calls DeleteTranslation) Please enter a number: 5 (Calls DisplayEntries) Please enter a number: 6 (Calls SearchWord) Please enter a number: 7 (Calls TranslationImportFile) Please enter a number: 8 (Calls ImportFile) Please enter a number: 9 (Calls ExportFile)
	2	Tests wether ManageDataMenu function handles menu navigation based on user input. (0)	Please enter a number: 0	Please enter a number: 0 (Exits the loop back to main menu)	Please enter a number: 0 (Exits the loop back to main menu)
	3	Tests wether ManageDataMenu function handles menu navigation based on user input. (10)	Please enter a number: 10	ERROR: Invalid input.	ERROR: Invalid input.
AddEntry	4	Test whether AddEntry correctly adds a new word-translation pair to the system.	Tagalog Mahal ND	Entry #1 added! Pairs: 1 Language Translation Tagalog Mahal	Entry #1 added! Pairs: 1 Language Translation Tagalog Mahal

		5 Test wether AddEntry finds a smilar translation	Language:Tagalog Word: Mahal ND (Terminate transaction for more translations 1 (Add entry function Language: Tagalog Word: Mahal N	Entry #1 found with similar translation Language Translation Tagalog Mahal  Is this a new entry (Y/N): N No entry was added.	Entry #1 found with similar translation Language Translation Tagalog Mahal  Is this a new entry (Y/N): N No entry was added.
		6 Test wether AddEntry finds a smilar translation and adds it as a new entry	Language:Tagalog Word: Mahal ND (Terminate transaction for more translations 1 (Add entry function Language: Tagalog Word: Mahal Y (Add as a new entry) Language:Tagalog Word: Mahal ND	Entry #2 added! Pairs: 2 Language Translation Tagalog Mahal Tagalog Mahal	Entry #2 added! Pairs: 2 Language Translation Tagalog Mahal Tagalog Mahal
AddTranslations		7 Verify that a new translation can be successfully added to an existing word	Added Entries Language (Tagalog) Word (Mahal)  Added Translation English Love	Updated Translations: Language Translation English Love Tagalog Mahal	Updated Translations: Language Translation English Love Tagalog Mahal
		8 Ensure that the system does not allow adding a translation for a word that does not exist.	Added Entries Language (Tagalog) Word (Mahal)  User asked on which entry to add Translation Language (English) Word (Tagalog)	No existing entry found. Use Add Entry first.	No existing entry found. Use Add Entry first.
		9 Test different invalid inputs to check if the system properly handles errors	Added Entries Language (Tagalog) Word (Mahal)  User asked on which entry to add Translation Language (Blank*)	Enter the language of an existing entry: ERROR: Invalid Input	Enter the language of an existing entry: ERROR: Invalid Input



			Added Entries Language (Tagalog) Word (Mahal)		
	10	Test different invalid inputs to check if the system properly handles errors	User asked on which entry to add Translation Language (Mahal) Word (Blank*)	Enter the translation of an existing entry: ERROR: Invalid Input	Enter the translation of an existing entry: ERROR: Invalid Input
DeleteEntry	11	Verify that an existing word entry can be successfully deleted from the system.	Added Entries Pair 1: Language (Tagalog) Word (Mahal)  Pair 2: Language (Tagalog) Word (Gusto)  Entered Entry to delete: 2	Are you sure you want to delete Entry #2? (Y/N): Y Entry #2 was deleted. Entry 2#: Pair count: 1 Language Translation Tagalog Gusto	Are you sure you want to delete Entry #2? (Y/N): Y Entry #2 was deleted. Entry 2#: Pair count: 1 Language Translation Tagalog Gusto
	12	Verify that an error message appears when trying to delete a word that does not exist.	Added Entries Pair 1: Language (Tagalog) Word (Mahal)  Pair 2: Language (Tagalog) Word (Gusto)  Entered Entry to delete: 3	Enter input: 3  ERROR: Invalid Input.	Enter input: 3  ERROR: Invalid Input.
	13	Tests what will happen if there are no added entries	No Entries Added	No entries available to delete.	No entries available to delete.
DeleteTranslations	14	Tests what will happen if there are no added entries	No Entries Added	No entries available to delete translations from.	No entries available to delete translations from.
	15	Tests cancel deletion before selecting an entry	Added Entries Pair 1: Language (Tagalog) Word (Mahal)	Enter the entry number to delete a translation from (0 to cancel): 0 Deletion canceled. Returning to menu.	Enter the entry number to delete a translation from (0 to cancel): 0 Deletion canceled. Returning to menu.

		16	Tests cancel deletion after selecting entry	Added Entries Pair 1: Language (Tagalog) Word (Mahal)	Enter the entry number to delete a translation from (0 to cancel): 1 Entry 1: 1. Tagalog - Mahal  Enter the translation number to delete (0 to cancel): 0 Translation deletion canceled. Returning to menu.	Enter the entry number to delete a translation from (0 to cancel): 1 Entry 1: 1. Tagalog - Mahal  Enter the translation number to delete (0 to cancel): 0 Translation deletion canceled. Returning to menu.
		17	Attempt to delete non-existent translation	Added Entries Pair 1: Language (Tagalog) Word (Mahal)	Enter the entry number to delete a translation from (0 to cancel): 2 ERROR: Invalid entry number.	Enter the entry number to delete a translation from (0 to cancel): 2 ERROR: Invalid entry number.
		18	Delete a valid translation pair	Added Entries Pair 1: Language (Tagalog) Word (Mahal) Language (English) Word (Love)  Pair 2: Language (Tagalog) Word (Gusto)  Deleted Translation: Pair 1, (English Love)	Enter the entry number to delete a translation from (0 to cancel): 1 Entry 1: 1. English - Love 2. Tagalog - Mahal  Enter the translation number to delete (0 to cancel): 1 Translation deleted successfully!	Enter the entry number to delete a translation from (0 to cancel): 1 Entry 1: 1. English - Love 2. Tagalog - Mahal  Enter the translation number to delete (0 to cancel): 1 Translation deleted successfully!
		19	Attempt to Delete Non-Existent Translation	Added Entries Pair 1: Language (Tagalog) Word (Mahal)  Pair 2: Language (Tagalog) Word (Gusto)  Deleted Translation: Pair 1, 2 (Nonexistent)	Do you want to delete another translation from this entry? (Y/N): Y Entry 1: 1. Tagalog - Mahal  Enter the translation number to delete (0 to cancel): 2 ERROR: Invalid translation number.	Do you want to delete another translation from this entry? (Y/N): Y Entry 1: 1. Tagalog - Mahal  Enter the translation number to delete (0 to cancel): 2 ERROR: Invalid translation number.

	20	Deleteing final translation deletes entire entry	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal)</p> <p>Deleted Translation: Pair 1, (Tagalog, Mahal)</p>	<p>Enter the translation number to delete (0 to cancel): 1 Translation deleted successfully! No more translations left. Deleting entire entry.</p>	<p>Enter the translation number to delete (0 to cancel): 1 Translation deleted successfully! No more translations left. Deleting entire entry.</p>
DisplayEntries	21	Displaying entries but no entries	No Entries Added	No entries found. Please add an entry first.	No entries found. Please add an entry first.
	22	navigating through next (N), previous (P), or exit (X).	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal)</p> <p>Pair 2: Language (Tagalog) Word (Gusto) "N"</p>	<p>Entry 2#: Pair count: 1 Language Translation Tagalog          Gusto</p>	<p>Entry 2#: Pair count: 1 Language Translation Tagalog          Gusto</p>
	23	navigating through next (N), previous (P), or exit (X).	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal)</p> <p>Pair 2: Language (Tagalog) Word (Gusto) "P"</p>	<p>Entry 1#: Pair count: 1 Language Translation Tagalog          Mahal</p>	<p>Entry 1#: Pair count: 1 Language Translation Tagalog          Mahal</p>
	24	navigating through next (N), previous (P), or exit (X).	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal)</p> <p>Pair 2: Language (Tagalog) Word (Gusto) "X"</p>	Exits to main menu*	Exits to main menu*

SearchWord	25	Basic Search for an Existing Word	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal)</p> <p>Word Search: Mahal</p>	<p>Please enter the word to search: Mahal Entry 1#: Pair count: 1 Language                      Translation Tagalog                      Mahal</p>	<p>Please enter the word to search: Mahal Entry 1#: Pair count: 1 Language Translation Tagalog                      Mahal</p>
	26	Search for a Non-Existing Word	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal)</p> <p>Word Search: love</p>	<p>Please enter the word to search: love No entries found with the word 'love'.</p>	<p>Please enter the word to search: love No entries found with the word 'love'.</p>
	27	Test to show word if there are the same word in multiple entries	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal) Language (English) Word (Love)</p> <p>Pair 1: Language (Cebuano) Word (Mahal) Language (English) Word (Expensive)</p> <p>Translation search: Mahal</p>	<p>Please enter the word to search: Mahal Entry 1#: Pair count: 2 Language                      Translation Cebuano                      Mahal English                      Expensive</p> <p>N for next entry X to exit Please enter a letter: n</p> <p>Entry 2#: Pair count: 1 Language                      Translation Tagalog                      Mahal</p>	<p>Please enter the word to search: Mahal Entry 1#: Pair count: 2 Language Translation Cebuano                      Mahal English                      Expensive</p> <p>N for next entry X to exit Please enter a letter: n</p> <p>Entry 2#: Pair count: 1 Language Translation Tagalog                      Mahal</p>

SearchTranslation	28	Search for a Specific Translation	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal) Language (English) Word (Love)</p> <p>Pair 1: Language (Cebuano) Word (Mahal) Language (English) Word (Expensive)</p> <p>Word Search: Mahal, Tagalog</p>	<p>Please enter the language of the word: Tagalog Please enter the word to search: Mahal Entry 1#: Pair count: 1</p> <p>Language Tagalog      Translation Mahal</p>	<p>Please enter the language of the word: Tagalog Please enter the word to search: Mahal Entry 1#: Pair count: 1 Language Translation Tagalog Mahal</p>
	29	Search for a Non-Existent Translation	<p>Added Entries Pair 1: Language (Tagalog) Word (Mahal) Language (English) Word (Love)</p> <p>Pair 1: Language (Cebuano) Word (Mahal) Language (English) Word (Expensive)</p> <p>Word Search: Amar, Spanish</p>	<p>Please enter the language of the word: Spanish Please enter the word to search: Amar No entries found with the language-translation pair 'Spanish - Amar'.</p>	<p>Please enter the language of the word: Spanish Please enter the word to search: Amar No entries found with the language-translation pair 'Spanish - Amar'.</p>

			Added Entries Pair 1: Language (Tagalog) Word (Mahal) Language (English) Word (Love)  Pair 1: Language (Cebuano) Word (Mahal) Language (English) Word (Expensive)  Word Search: MAHAL, Tagalog		
	30	Translation Case sensitivity, to check if words with different cases are the same or not		Please enter the language of the word: Tagalog Please enter the word to search: MAHAL No entries found with the language-translation pair 'Tagalog - MAHAL'.	Please enter the language of the word: Tagalog Please enter the word to search: MAHAL No entries found with the language-translation pair 'Tagalog - MAHAL'.
Import	31	if the current number of entries is in the interval [0, 150) and the number of entry is between (0, 150) and accepted atleast one entry from the file	current entry number: 0  import: English: love Tagalog: mahal Japanese: ai Spanish: amor  Tagalog: mahal English: expensive  accept all entries	Entry 1#: Pair count: 2 Language Translation English Tagalog expensive mahal  Entry 2#: Pair count: 4 Language Translation English Tagalog love ai amor mahal	Entry 1#: Pair count: 2 Language Translation English Tagalog expensive mahal  Entry 2#: Pair count: 4 Language Translation English Tagalog love ai amor mahal
	32	if the current number of entries is in the interval [0, 150) and the number of entry is between (0, 150] and accepted no entries	current entry number: 0  import: English: love Tagalog: mahal Japanese: ai Spanish: amor  Tagalog: mahal English: expensive  deny all entries	No entries were imported.	No entries were imported.

	33	if the file to be imported is empty		No entries were found in the import.	No entries were found in the import.
	34	if the current number of entries would overflow beyond 150 after import	current entry num = 4 import entry num = 150	ERROR: Exceeded maximum amount of entry.	ERROR: Exceeded maximum amount of entry.
Export	35	if file name is valid and there exist an entry	Pairs: 1 Language Translation Filipino mahal	Filipino: mahal	Filipino: mahal
	36	if file name is invalid	filename: \n	ERROR: Invalid Input.	ERROR: Invalid Input.
	37	if there are no existing entries		No existing entries found. Please use Add Entry first.	No existing entries found. Please use Add Entry first.
TranslateMenu	38	The given file name of the entries exists	Assume findstring.txt exists	Proceeds to translate menu	Proceeds to translate menu
	39	The given file name of the entries does not exist	Assume translations.txt does not exist	ERROR: translations.txt does not exist.	ERROR: translations.txt does not exist.
	40	Given file name is invalid	\n was entered in the file name	ERROR: Invalid File Name.	ERROR: Invalid File Name.
	41	Input is within range of valid numbers	Assume findstring.txt exists Please enter a number: 1 Please enter a number: 2 Please enter a number: 3	calls TranslateTextInput calls TranslateTextFile moves back to main menu	calls TranslateTextInput calls TranslateTextFile moves back to main menu
	42	Input is not within range of valid numbers	Assume findstring.txt exists Please enter a number: 4	ERROR: Invalid input.	ERROR: Invalid input.
TranslateTextInput	43	user chooses to translate another text input	English Tagalog i love brown chicken, they are my cup of tea user chooses y	i mahal kayumanggi manok they are my tasa of tea  prompts again to type the text input	i mahal kayumanggi manok they are my tasa of tea  prompts again to type the text input
	44	user chooses to not translate another text input	English Tagalog i love brown chicken, they are my cup of tea user chooses n	i mahal kayumanggi manok they are my tasa of tea  goes back to TranslateMenu	i mahal kayumanggi manok they are my tasa of tea  goes back to TranslateMenu
	45	user types an invalid char	English Tagalog i love brown chicken, they are my cup of tea user chooses l	i mahal kayumanggi manok they are my tasa of tea  ERROR: Invalid input.	i mahal kayumanggi manok they are my tasa of tea  ERROR: Invalid input.

TranslateTextFile	46	user types an existing txt file to be translated	English Tagalog source.txt saved.txt	Source text: i love ccprog2! i love pokemon, but its too expensive...  Translation: i mahal ccprog2 i mahal pokemon but its too expensive	Source text: i love ccprog2! i love pokemon, but its too expensive...  Translation: i mahal ccprog2 i mahal pokemon but its too expensive
	47	user types an txt file that is not existing to be translated	English Tagalog default.txt saved.txt	ERROR: default.txt does not exist.	ERROR: default.txt does not exist.