System Test Plan: Phrase Analyzer program

NOTE: You can stop program execution by pressing Ctrl+C.

Test ID	Description	Expected Results	Actual Results

testNoCommandLineArguments
 	
Author: Dr. Balik
	`$ java -cp bin PhraseAnalyzer`	`Usage: java -cp bin PhraseAnalyzer <phrase>`
		
		`<Program exits>`
			`Usage: java -cp bin PhraseAnalyzer <phrase>`
			
			`<Program exits>`

testPhraseWith2Smallest2LargestWords
 	
Author: Dr. Balik
	`$ java -cp bin PhraseAnalyzer Today is the first day of the rest of your life.`	`Smallest word(s): is, of`
		`Largest word(s): Today, first`
		`Average word length: 3.36`
		`Least frequently used letter(s): l, u`
		`Most frequently used letter(s): t`
		
		`<Program exits>`
			`Smallest word(s): is, of`
			`Largest word(s): Today, first`
			`Average word length: 3.36`
			`Least frequently used letter(s): l, u`
			`Most frequently used letter(s): t`
			
			`<Program exits>`

testPhraseWithSameLargestWordDifferentCase
 	
Author: Dr. Balik
	`$ java -cp bin PhraseAnalyzer Roses are red, some roses are blue.`	`Smallest word(s): are, red`
		`Largest word(s): Roses, roses`
		`Average word length: 3.86`
		`Least frequently used letter(s): b, d, l, m, u`
		`Most frequently used letter(s): e`
		
		`<Program exits>`
			`Smallest word(s): are, red`
			`Largest word(s): Roses, roses`
			`Average word length: 3.86`
			`Least frequently used letter(s): b, d, l, m, u`
			`Most frequently used letter(s): e`
			
			`<Program exits>`

testInvalidPhraseWithNonletters
 	
Author: Dr. Balik
	`$ java -cp bin PhraseAnalyzer March 7, 2023`	`Invalid phrase`
		
		`<Program exits>`
			`Invalid phrase`
			
			`<Program exits>`

testInvalidPhraseWithTooMuchPunctuation
 	
Author: Dr. Balik
	`$ java -cp bin PhraseAnalyzer Abc,.! xyz`	`Invalid phrase`
		
		`<Program exits>`
			`Invalid phrase`
			
			`<Program exits>`

Test ID	Description	Expected Results	Actual Results
testInvalidPhraseWithSingle PunctuationCharacter Author: Dr. Balik	`$ java -cp bin PhraseAnalyzer abc ! def`	Invalid phrase <Program exits>	Invalid phrase <Program exits>
testInvalidPhraseWithEmpty String Author: Dr. Balik	`$ java -cp bin PhraseAnalyzer abc "" def`	Invalid phrase <Program exits>	Invalid phrase <Program exits>
testInvalidPhraseWithPeriod InMiddleOfWord Author: Dr. Balik	`$ java -cp bin PhraseAnalyzer Hello.World`	Invalid phrase <Program exits>	Invalid phrase <Program exits>
testInvalidPunctuation Author: Max Farthing	`$ java -cp bin PhraseAnalyzer Hello-World`	Invalid phrase <Program exits>	Invalid phrase <Program exits>
testValidWordsAllSameLength Author: Max Farthing	`$ java -cp bin PhraseAnalyzer Five four year`	Smallest word(s): Five, four, year Largest word(s): Five, four, year Average word length: 4.00 Least frequently used letter(s): a, i, o, u, v, y Most frequently used letter(s): e, f, r	Smallest word(s): Five, four, year Largest word(s): Five, four, year Average word length: 4.00 Least frequently used letter(s): a, i, o, u, v, y Most frequently used letter(s): e, f, r
testValidSameWordsDifferen tCase	`$ java -cp bin PhraseAnalyzer cows Cows CoWs`	Smallest word(s): cows, Cows, CoWs Largest word(s): cows, Cows, CoWs Average word length: 4.00	Smallest word(s): cows, Cows, CoWs Largest word(s): cows, Cows, CoWs Average word length: 4.00

Author: Max Farthing		Least frequently used letter(s): Most frequently used letter(s): c, o, s, w	Least frequently used letter(s): Most frequently used letter(s): c, o, s, w
testMultipleWordsWithValid Punctuation Author: Max Farthing	`$ java -cp bin PhraseAnalyzer Hello! how, are;`	Smallest word(s): how, are Largest word(s): Hello Average word length: 3.67 Least frequently used letter(s): a, r, w Most frequently used letter(s): e, h, l, o	Smallest word(s): how, are Largest word(s): Hello Average word length: 3.67 Least frequently used letter(s): a, r, w Most frequently used letter(s): e, h, l, o