Reema Kshetramade

SID: 205328402

Project 5 Report

1. One obstacle I overcame was determining the number of flowers and bees in a trial word when there was overlap in what a letter could be assigned as. I fixed this by changing the letters that were already assigned to the space character so they could be distinguished from characters that were not assigned yet.

Another obstacle I faced was generating a random index that would get a word from the array of words that was filled because I was originally generating an index from 0 to one less than the maximum length of the array. I fixed this by instead generating a number from 0 to one less than the number of words that were filled into the array.

1. main routine

fill word list array with words from specified file

check if array has at least one word; terminate program with error message if not

prompt user for number of rounds to play the game

if number of rounds is negative, terminate program with error message

loop for number of rounds

generate a random index to choose the word

print round number and length of mystery word

call playOneRound and store result of function call

print winner message depending on number of tries as returned by playOneRound

calculate and print the average, minimum, and maximum score

playOneRound

if the number of words is less than 0 or the index of the word is outside the bounds of the array

return function with error code -1

store word at random index passed to function in variable

declare and initialize variable to hold the number of tries user takes to guess

loop infinitely

prompt user for trial word and store it

if the trial word has an error in it

print the correct error message

else if the trial word is equal to the mystery word

break from the loop

else call function that counts and prints out the number of flowers and bees in the word

return the number of tries it took to guess the word

isValidWord

if the word is not between 4 to 6 characters return error code 1

loop through each character in word

if the character is not a letter or not lowercase return error code 2

loop through each word in the wordlist

if the trial word is found in the word list return 0

return error code 2 (meaning the word has not been found in the word list)

countFlowersBees

create copies of the trial word and mystery word that can be altered

loop through both words for the number of times equal to the length of the smaller word

if the letters in corresponding positions of the trial and mystery words are equal

increment the number of flowers and change the relevant letters to space chars

loop through each index of the trial word

loop through each index of the mystery word

if the letters at those indexes are equal

increment the number of bees and change the letters to space characters

break out of inner loop to go to the next letter in the trial word