Exam 3: Sentiment Analysis Program

My program performs a sentiment analysis using functions that reference predefined positive and negative words to determine whether a statement is positive, negative, or neutral. The positive word array contains the 7 words: "good", "happy", "joy", "love", "positive", "amazing", "great." The negative word array contains the 7 words: "bad", "sad", "upset", "hate", "negative", "horrible", "anger." A menu function prints the 5 menu options for the user when called. The menu options are analyze a sentence, get sentiment count, get most frequent sentiment, save analysis results to file, and exit. All options except exit have a function that performs them. There is an additional count sentiment function that is used by other functions. This converts the phrase to lowercase, counts the positive and negative words, and returns these counts.

Within the main controller of the function, a while statement runs to print the menu, get user input for the menu options, and execute the menu option until the user inputs “5” to exit. There is also an empty array created to hold all user inputs. Selecting option 1 calls the analyze sentiment function which takes a user input for analysis, gets sentiment counts using the count sentiment function and compares these counts using if statements to determine and print whether it is positive, negative, or neutral. Option 2 calls the get sentiment count function which takes user input for analysis, gets the sentiment counts using the corresponding function, and printing the number of positive and negative sentiments. Option 3 prints the most frequent sentiment category using the get most sentiment function which analyzes each word that the user has already inputted with the analyze sentiment function, using a dictionary to story sentiment counts, and determining the most sentiment by finding the max of the counts. Option 4 saves all prior user inputted sentiments and their designation to a file with the save to file function. It does so by iterating through the cumulative input array, analyzing each with analyze sentiment function, and writing each analysis to the file. For options 3 and 4, they will return an error message if no inputs have been entered yet. Option 5 exits the program. Any other input with print an error message and prompt for a valid option.