# Program Design Continuous Assessment

## Arthur Coll C16406984

Flowchart Steps

1. Start Program
2. Initialize all variable to 0 (Counter, Wordscore, Score, Wordvar,Highscore,HighestWord)
3. Set X to Random Number between 1-99 and then set 9 Letters [Counter] to alphabet[X]
4. Increment counter and check counter is equal to 9, if not loop back too step 3
5. Set counter to 0, if counter is not equal to nine, print9letters[Counter] and increment counter, loop back to decision if counter = 9
6. Check if rounds = 0, if so begin end sequence
7. Read in Wordvar and set counter&wordscore to 0
8. Check if counter is equal to the length of wordvar if not then check if the letter counter of wordvar is contained within 9letters if it is increment counter and loop back to step 6
9. If this is not the case then print letters not contained within given list and loop back to step 6
10. Check guess is valid word, if it is not print incorrect, take -1 away from rounds then loop back to step 6
11. If it is a valid word then check does WordVar contain “A,E,I,O,U” if it contains any of these letters then increment the score and wordscore by 1 if it does not the increment by 2
12. If wordscore is greater than highest score then set largest to wordscore and store wordvar as highestword else or otherwise loops back to step 6.
13. When rounds == 0 then activate end sequence to print Highest score, Highest Word and score variables
14. Ask User if they want to play again, if y selected then go to step 1 and re excute.

Scratch Program Steps

1. Create Loop that executes when the option is not ‘N’
2. Initialize and set all the variables to 0. (Counter, Wordscore, Score, Wordvar, Largest, Largestword, RestartOption)
3. Hide list alphabet for cosmetics
4. Create a repeat until loop that repeats 5 times to function as the 5 rounds
5. Delete all the letters of the Array letters and set counter to 0, to ensure the program has no left overs from previous rounds
6. Create a repeat that executes until counter is equal to nine, within this loop a random item of the array alphabet is added to array 9letters and counter is incremented by 1
7. Say ‘Please make a word from these letters’ then use say function to state the whole array of 9letters.
8. Use Ask function to read in the word and store this in Wordvar, set counter to 0
9. Create loop that executes according to the number of letters in wordvar EG: If wordvar is cat then execute 3 times.
10. Within the loop above increment counter by one and use an IF else statement to validate inputs, IF Letter[Counter] of Wordvar is in the Array (letters) then continue execution, Else say Invalid Input and set Wordvar to 0
11. Set counter to 1 and create repeat until loop that executes the length of wordVar Times
12. Within this loop have an if else statement, IF Letter[Counter] of Wordvar contains A,E,I,O,U then increment score and wordscore by one. Else increment by score and wordscore by 2.
13. After this have an IF statement which executes if Wordvar is 0, change wordscore and score by -2
14. Check if word is contained in imported dictionary array, if it is continue if not set wordvar to 0
15. Exit Loop
16. Print you scored and then print the value of Wordscore
17. Create If statement that executes if Wordscore > Largest. If so set Wordscore to largest and set Wordvar to Largest Word
18. Exit Loop and set WordVar to 0
19. Exit Repeat 5 loop
20. Print Score, Wordscore and Highest word variables
21. Ask if they want to play again, set answer to restart option
22. If they do not select N code re excutes due to original loop