**Programming Design Worksheet - Redfield  
 for CS1310** (programs 2-7) **and CS1311** (programs 1-6) Copy this file. Type and past images to create new documents for designs.  
Print it for class (if you must miss, submit one file to Designs).

First name **Davide** Last name **Russillo**

Design for program name **Pig Latin**

**DATA**

Variables needed in **WORDS for** **main** and **globally**    
sentence string for input

sentence copy string because strtok modifies the original

pointer to current word

variable for iteration

Formulas/equations + if any

C ***DECLARATIONS*** for main & global

char sentence;

char sentence\_copy;

char \*current;

int i;

*(STARTING TicTacToe:put image; or draw: Insert, Drawing; or put at end of the file)***draw** in RAM with possible values

sentence |I| |l|o|v|e| |c|o|m|p|u|t|e|r| |s|c|i|e|n|c|e|\0|

current\_\_\_\_

|

V

|l|o|v|e|\0| for example

**Algorithm to PSEUDOCODE level** for each function   
(*remember to indent under* if, switch, while, do-while, for)  
**main**:

print: This program takes in a sentence from the user and outputs its Pig Latin translation. In pig latin, if the word starts with a vowel, or if it doesn't have a vowel at all, it stays the same with only 'way' appended at the end. Otherwise, the word will start with every letter from the first vowel to the end of the word, with then the initial with every letter from the first vowel to the end of the word, with then the initial consonants appended, followed by 'ay'. Accepts sentences of max 80 characters per line. Loops until user inputs STOP as sentence.

while sentence is not stop

print Input sentence here:

input sentence

if sentence is stop

print Shutting down...

else

print you entered ‘sentence’ newline translation: newline

copy sentence into sentence\_copy

set current to first word

while current is still a word

translate current

set current to next word

**other** functions (**bold the names**): (put them before main in the program!)

int **check\_if\_vowel**(char letter)

if letter is a, e, i, o, or u

return 1

else

return 0

int **check\_if\_all\_consonants**(char \*word)

for each letter in word

if check\_if\_vowel of word

return 0

return 1

void **translate**(char \*word)

let first\_vowel\_reached be 0

char array temp of length wordlength – 1

set first char in temp to null character

if check\_if\_vowel of first char or check\_if\_all\_consonants in word

print word + way

else

for each letter in word

if check\_if\_vowel of current letter

set first\_vowel\_reached to 1

if first\_vowel\_reached

print current letter

else

append letter to temp

append null character to temp

print temp + ay

**OTHER part of the design** (see assignment - *input or sample output*)

This program takes in a sentence from the user and outputs its Pig Latin translation.

In pig latin, if the word starts with a vowel, or if it doesn't have a vowel at all,

it stays the same with only 'way' appended at the end. Otherwise, the word will start

with every letter from the first vowel to the end of the word, with then the initial

consonants appended, followed by 'ay'.

Accepts sentences of max 80 characters per line. Loops until user inputs STOP as sentence.

Input sentence here:

> I love computer science and programming

You entered:

I love computer science and programming

Translation:

Iway ovelay omputercay iencescay andway ogrammingpray

Input sentence here:

> stop

Shutting down...