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EE 422C - Perry
Lab: TH 9:30-11am

Assignment 1: Analysis

Input: English Phrase (one phrase at a time)
Output: Pig Latin Phrase (original and resultant)

The template code gets file with the phrases and helps only input a phrase at a time.

My job is to modify (add but never delete) the translate method provided. I can create my own phrases to test it or I can use the already given ones. I must use the Java string class and associated methods, such as “substring” or “concatenate.”

There are 6 Rules that I need to follow, and also come up with corner cases.

Basically, the first letter(s) of the word (vowel or consonants), defines what the translation should look like. For example, if the word starts with a vowel, then it should just add “yay” at the end of the word. If it starts with a consonant, it should get all the consonants at the beginning of the word (either if it is just one or more), extract them and place them at the end of the word, and finally add “ay” after the consonants.

However, there’s some tricky stuff and some exceptions if the word has symbols in it. If the word has punctuation symbols that are not: “.”, “-“, “:”, “;”, “!”, “?”, “…”, “,”, then the translator should not modify the word, and should just copy it. If it does encounter one of the punctuation symbols stated above, then it should do the regular translation, and put “ay” or “yay” before the punctuation symbol. Then, repeat the process until a new line is found.

Classes and methods that I will most likely use from the *String* library (from lecture 3 slides):

- substring (start) - Returns the substring of the reference String starting at index start through the end of the String.
- substring (start, end) - Returns the substring of the reference String starting at index start through index end-1.
- indexOf (a) - Returns the index (int) of the first occurrence of String a or char a in the reference String. Returns -1 if not found.
- indexOf (a, start) - Returns the index (int) of the first occurrence of String a or char a in the reference String that occurs at or after index start.
- equals (String) - Test two Strings for equality (boolean)
- compareTo (String) - tests two Strings for lexicographical ordering; returns an int for <, >, =

Some helper functions I will use to make my code easier to read and debug:

- Check if the character is in the alphabet
  - input: character (letter)
  - output: true or false

- Check if string is in the alphabet and does not have a weird punctuation symbol
  - input: string (word)
  - output: true or false

- Check if the character is a vowel
  - input: character (letter)
  - output: true or false

- Get index of vowel
  - input: string (word)
  - output: int (index)

- Get index of hyphen
  - input: string (word)
  - output: int (index)

- Check if character is a valid punctuation symbol
  - input: character (letter)
  - output: true or false

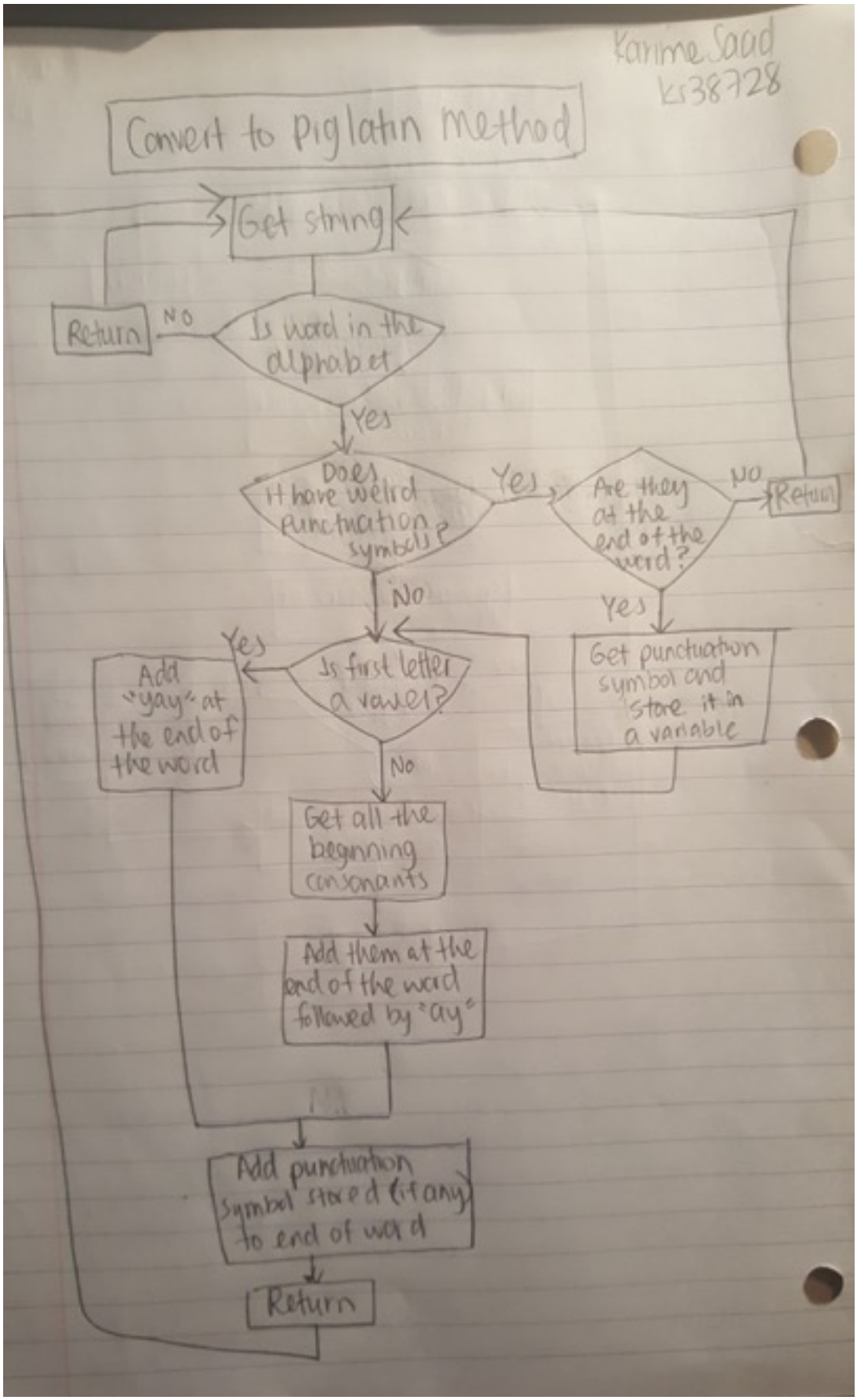
- Convert string to pig latin after checking every condition.
  - input: string (word)
  - output: translated word

TRANSLATE METHOD

- Get phrase (string)
- Check if the string is empty.
  - If string is empty, then output on the screen: “Empty String.”
- Make *while loop* to go over the string until a space is found and do a substring to separate the word.
    - If hyphen is found, then find index of hyphen, do a substring of the words, and translate each word into piglatin using the convertToPigLatin helper function.
    - If hyphen isn’t found, then convert the separated word into piglatin using the function convertToPigLatin.
- After converting to piglatin, add the new translated word to the already translated words in resultant string.

CONVERT TO PIGLATIN METHOD

- Check if the string passed is in the alphabet and does not have weird punctutations using the helper function isInAlphabet, that returns a true is if it is a valid string.
    - If string is not valid, then go over the string looking for the punctuation symbol found at the end of the string, and store it in a temporary variable.
    - Create a substring and check if the rest of the word is valid.
- Check if first character is a vowel.
    - If it is a vowel, then add “yay” to the end of string.
    - If not, then it is a consonant:
        - Look for all the beginning consonants, until a vowel is found, and append them at the end of the string, followed by “ay”.
- Once the word is completely translated, return the word with the punctuation symbol stored before.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Convert to Piglatin method
Get string
Is word in the alphabet
NO
Return
Yes
Does it have weird punctuation symbols?
Yes
Are they at the end of the word?
NO
Return
Yes
Get punctuation symbol and store it in a variable
No
Is first letter a vowel?
Yes
Add "yay" at the end of the word
No
Get all the beginning consonants
Add them at the end of the word followed by "ay"
Add punctuation symbol stored (if any) to end of word
Return

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TRANSLATE