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Script started on Sun 13 May 2012 11:58:20 AM CDT
\033]0;georgia@georgia-MT6017: ~/cplusplus\007georgia@georgia-MT6017:~/cplusplus$ C
PP --version
This is CPP version 1.219 executing under perl v5.12.4 and compiling with:

g++ (Ubuntu/Linaro 4.6.1-9ubuntu3) 4.6.1
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\033]0;georgia@georgia-MT6017: ~/cplusplus\007georgia@georgia-MT6017:~/cplusplus$ p
wd
/home/georgia/cplusplus
\033]0;georgia@georgia-MT6017: ~/cplusplus\007georgia@georgia-MT6017:~/cplusplus$ c
at piglatin.i\033[Knfo
Name: Jakob Hansen
Class: CSC121 - Evening Section
Lab: Pig Latin Translator

Levels attempted:

6 - For getting it to work! Translates from normal english to pig latin,
preserving punctuation (well, single punctuation) and capitalization (well,
first-letter-capitalization...).



Program Description:

This program prompts the user to enter in words or phrases in english, and the
pig-latin-translated phrase is printed on the screen. If the original word was
capitalized the first letter of the new word inherits the capitalization, and
likewise leading or trailing punctuation chars are moved to the right place.

\033]0;georgia@georgia-MT6017: ~/cplusplus\007georgia@georgia-MT6017:~/cplusplus$ c
at piglatin.cpp
#include <iostream>
#include <string>
#include <cctype>
#include <climits>

using namespace std;

void pltrans(string & word);

int main(void)
{
    string::size_type start, end;
    string phrase, word, answer;
    char yesno;

    cout << "\n\t\tWelcome to the Pig Latin Translator\n";


    do
    {
        cout << "Please enter a word or phrase to translate. \n\n";

        getline(cin, phrase);

        start = phrase.find_first_not_of(" \t"); // finds the first non-space.

        if (start != string::npos) // if the phrase is not just empty spaces.
        {
            end = phrase.find_first_of(" \t", start);

/* The entered phrase is loop'd through, and each individual word is extracted,
sent to the translation function, and upon its return appended to the answer
string. */

            while (end !=string::npos)
            {
                word.assign(phrase, start, end - start);
                pltrans(word);
                answer.append(word + " ");
                word.clear();
                start = phrase.find_first_not_of(" \t", end);

                if (start == string::npos)
                {
                    end = start;
                }
                else
                {
                    end = phrase.find_first_of(" \t", start);
                }
            }

            if (start != string::npos)
            {
                word.assign(phrase, start, end - start);
                pltrans(word);
                answer.append(word + " ");
                word.clear();
            }
        }

        cout << answer << "\n\nWould you like to enter another phrase?  ";
        answer.clear();
        cin >> yesno;
        cin.ignore(INT_MAX, '\n');
    } while (toupper(yesno) == 'Y');

    return 0;
}

void pltrans(string & word)
{
    bool endpunct = false, startpunct = false;
    string cons, endp, startp, firstpair;
    string::size_type counter, vlpos = word.find_first_of("aeiouyAEIOUY"),
                               endpuncpos = word.find_last_of("!?,.:'\""),
                               startpuncpos = word.find_first_of("!?,.:'\"");

/*Checks if there is punctuation at the beginning and end of the word. If there
are, the punctuation characters are removed and stored in strings, and the
truth value of their presence is stored in bools. In the case of leading
punctuation, the position of the first vowel is adjusted to compensate for the
missing character. */

    if (endpuncpos == word.length() -1)
    {
        endp = word[endpuncpos];
        word.erase(endpuncpos);
        endpunct = true;
    }
    if (startpuncpos == 0)
    {
        startp = word[0];
        word.erase(startpuncpos, 1);
        startpunct = true;
        vlpos--;
    }

/*If the word starts with a consonant, consonant group, or "qu", those
characters are removed from the beginning of the word and tacked on to the end
along with the "ay" suffix that all such words get.*/
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    firstpair = word.substr(0, 2);

    if (vlpos != 0)
    {
        if (toupper(firstpair[0]) == 'Q' && toupper(firstpair[1]) == 'U')
        {
            cons = firstpair;
            vlpos++;
        }
        else
        {
            cons = word.substr(0, vlpos);
        }

        word.erase(0, vlpos);
        word.append(cons + "ay");

/*If the first letter of the original word was capitalized, the first letter of
the re-arranged word inherits the capitalization, and the rest of the word is
lower-cased. If the user types all different case letters and wants that to be
reflected in the pig-latin version, sorry.*/

        if (isupper(cons[0]))
        {
            word[0] = toupper(word[0]);
            for (counter = 1; counter <= word.size(); counter++)
            {
                word[counter] = tolower(word[counter]);
            }
        }
        else
        {
            for (counter = 0; counter <= word.size(); counter++)
            {
                word[counter] = tolower(word[counter]);
            }
        }
    }

/* If the word started with a vowel, "yay" is appended. Capitalizion doesn't
concern us here.*/

    else
    {
        word.append("yay");
    }

/*After the letters are re-arranged correctly, the punctuation character/s
is/are added back in the appropriate place/s. */

    if (startpunct)
    {
        word = startp + word;
    }
    if (endpunct)
    {
        word.append(endp);
    }

    return;
}
\033]0;georgia@georgia-MT6017: ~/cplusplus\007georgia@georgia-MT6017:~/cplusplus$ .
/piglatin.out

                Welcome to the Pig Latin Translator
Please enter a word or phrase to translate.

Hello! This is a phrase in Pig Latin.

Ellohay! Isthay isyay ayay asephray inyay Igpay Atinlay.

Would you like to enter another phrase?  y
Please enter a word or phrase to translate.

"Queen" is a great band: Brian May is the best!
"Eenquay" isyay ayay eatgray andbay: Ianbray Aymay isyay ethay estbay!

Would you like to enter another phrase?  y
Please enter a word or phrase to translate.

"This is a quoted phrase" "this" is a quoted word.
"Isthay isyay ayay otedquay asephray" "isthay" isyay ayay otedquay ordway.

Would you like to enter another phrase?  n
\033]0;georgia@georgia-MT6017: ~/cplusplus\007georgia@georgia-MT6017:~/cplusplus$ e
xit
exit

Script done on Sun 13 May 2012 12:00:23 PM CDT
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