CSC 301- Assignment #12

Prolog - Eliza Lite

Description

In 1966 Joseph Weizenbaum at MIT created a program called Eliza that seemed to be able to carry on a sensible conversation with a person interacting with it via a terminal. Weizenbaum created this program for the study of natural language. What surprised many users as well as computer scientists are the amazing effects that the fairly simple pattern matching algorithm driving Eliza could exhibit (see http://en.wikipedia.org/wiki/ELIZA for general info and http://dx.doi.org/10.1145%2F365153.365168 for the original ACM paper).

In this assignment you are to write a simple version of Eliza in Prolog. Essentially, the program is to display a prompt that it is ready to accept input. At the prompt the user should type in an English sentence as a list of Prolog atoms and your program should respond to this sentence with another English sentence derived from the original user sentence. Here is what an example session with your program might look like:

```
Ready> [you,are,a,computer].
Eliza: i am not a computer
Ready> [do,you,speak,portuguese].
Eliza: no, i speak russian
Ready>
```

Specification of the Core Algorithm

The following is an outline of the steps your program should perform in an infinite interactive loop:

1. accept a sentence that is typed in by the user as a list,
2. change each 'you' in the sentence to 'i',
3. change each 'i' in the original sentence to 'why do you',
4. change each 'are' to 'am not',
5. change each 'do' to 'no, ' (change to no with a comma and a space after the word),
6. change ‘portuguese’ to ‘russian’,
7. write out the changed sentence as a response to the user, note that the response should not be a list but words separated by spaces (hint: you probably need a separate recursive output predicate instead of writing the list straight to the terminal). Capitalization and final punctuation (period, question mark) are not required.

Trying out your Program

At the minimum, your program should handle the following interactive sessions as indicated:

1. User sentence: [i,feel,fine], Response: why do you feel fine
2. User sentence: [you,are,a,computer], Response: i am not a computer
3. User sentence: [do,you,speak,portuguese], Response: no, i speak russian

Handing in your assignment

Please hand in your source code and a screen dump of the interactive sessions specified above.