

CSC 301- Assignment 12

Prolog - Eliza Lite

ELIZA is an early [natural language processing](#) [computer program](#) created from 1964 to

1966^[1] at the [MIT Artificial Intelligence Laboratory](#) by [Joseph Weizenbaum](#).^[2]

Created to demonstrate the superficiality of communication between humans and machines, Eliza simulated conversation by using a "[pattern matching](#)" and substitution methodology that gave users an illusion of understanding on the part of the program, but had no built in framework for contextualizing events.^[3]^[4] Directives on how to interact were provided by

"scripts", written originally in [MAD-Slip](#), which allowed ELIZA to process user inputs and engage in discourse following the rules and directions of the script. The most famous script, DOCTOR, simulated a [Rogerian psychotherapist](#) (in particular, [Carl Rogers](#), who was well-known for simply parroting back at patients what they'd just said),^[5]^[6] and used rules, dictated in the script, to respond with non-directional questions to user inputs. As such, ELIZA was one of the first [chatbot s](#) and one of the first programs capable of attempting the [Turing test](#). Source : <https://en.wikipedia.org/wiki/ELIZA>

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

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).
8. Capitalization and final punctuation (period, question mark) are not required.

Try 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 screenshot of your results.