



ELIZA

Why pay a psychiatrist?



ELIZA

- ELIZA - A Computer Program for the Study of Natural Language Communication between Man And Machine
- Joseph Weizenbaum
- January 1966



ELIZA

- <http://www.chayden.net/eliza/Eliza.html>



The Goals of Eliza

- 1.) Identify the most important keyword.
- 2.) Find the context of the word.
- 3.) Choose a transformation and process it.
- 4.) Return appropriate responses when no keyword exists.
- 5.) Allow for scripts to be created or changed.



Finding Keywords

It seems that you hate me.



Finding Keywords

It seems that|you hate me.



Finding Keywords

It seems that|you|hate me.



Finding Keywords

It seems that|you|hate|me.



Finding Keywords

I
It seems that|you|hate|me.



Finding Keywords

1 2
It seems that|you|hate|me.



Finding Keywords

1 2 3
It seems that|you|hate|me.



Finding Keywords

1 2 3 4
It seems that|you|hate|me.



Finding Decompositions

1 2 3 4
It seems that|you|hate|me.



Finding Decompositions

1 2 3 4
It seems that|you|hate|me.

0 you 0 me



Finding Decompositions

1 2 3 4
It seems that|you|hate|me.

0 you 0 me

0 you 1 me



Finding Reassembly

1 2 3 4
It seems that|you|hate|me.

0 you 0 me



Finding Reassembly

1 2 3 4
It seems that|you|hate|me.

0 you 0 me

What makes you think I 3 you ?



Finding Reassembly

1 2 3 4
It seems that|you|hate|me.

0 you 0 me

What makes you think I 3 you ?

What makes you think I hate you ?



Considering the Order of Keywords

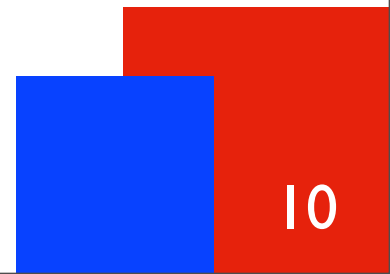
- Consider : I don't know if you like me.
 - 0 you 0 me → What makes you think I 3 you ?
 - 0 if 0 → Do you think its likely that 3 ?



Examples

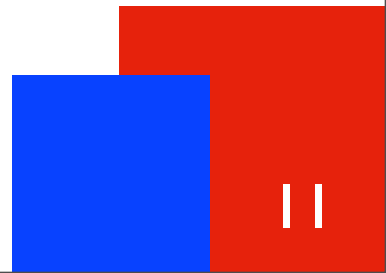


Transformations





pre: machine computer
pre: machines computer
pre: computers computer
post: am are
post: your my
pre: were was
post: me you
pre: you're you are
pre: i'm i am
post: myself yourself
post: yourself myself
post: i you
post: you I
post: my your
post: i'm you are





It's all the same

synon: belief feel think believe wish

synon: family mother mom father dad sister brother wife
children child

synon: desire want need

synon: sad unhappy depressed sick

synon: happy elated glad better

synon: cannot can't

synon: everyone everybody nobody noone

synon: be am is are was



Choosing Reassembly

key: sorry 0

decomp: *

reasmb: Please don't apologise.

reasmb: Apologies are not necessary.

reasmb: I've told you that apologies are not required.

reasmb: It did not bother me. Please continue.



Choosing Reassembly

>> Sorry I yelled

Please don't apologise.

>> Sorry I yelled

Apologies are not necessary.

>> Sorry I yelled

I've told you that apologies are not required.

>> Sorry I yelled

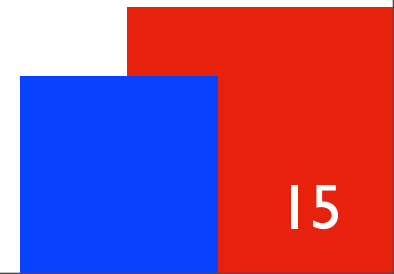
Please don't apologise.

>> Sorry I yelled

Apologies are not necessary.



No!





key: no 0

decomp: * no one *

reasmb: Are you sure, no one (2) ?

reasmb: Surely someone (2) .

reasmb: Can you think of anyone at all ?

reasmb: Are you thinking of a very special person ?

reasmb: Who, may I ask ?

reasmb: You have a particular person in mind, don't you ?

reasmb: Who do you think you are talking about ?

decomp: *

reasmb: Are you saying no just to be negative?

reasmb: You are being a bit negative.

reasmb: Why not ?

reasmb: Why 'no' ?



Really, No!

>> no one understands
Are you saying no just to be negative?
>> here, no one understands
You are being a bit negative.



Making ELIZA Smarter



Changes

- Have and expert edit the script.
- Use a learner to create new rules based on interaction.