



AP[®] Computer Science A Magpie Chatbot Lab Student Guide

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Laurie White of Mercer University, who developed
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Activity 4: Responses that Transform Statements

As stated previously, single keywords are interesting, but better chatbots look for groups of words. Statements like “I like cats,” “I like math class,” and “I like Spain” all have the form “I like *something*.” The response could be “What do you like about *something*?” This activity will respond to groupings of words.

Prepare

Have available:

- the API for the `Magpie` class
- the API for the `String` class
- the code for the `Magpie`
- the code for the `MagpieRunner`
- a computer with your Java development tools

Exploration

Get to know the revised `Magpie` class. Run it, using the instructions provided by your teacher.

How does it respond to:

- I want to build a robot. What would it mean to build a robot?
- I want to understand French. What would it mean to understand French?
- Do you like me? What makes you think that I like you?
- You confuse me. What makes you think that I confuse you?

Exercises

Look at the code. See how it handles “I want to” and you/me statements.

Alter the code:

- Have it respond to “I want *something*” statements with “Would you really be happy if you had *something*?” In doing this, you need to be careful about where you place the check. Be sure you understand why. For example:

Statement: I want fried chicken.

Response: Would you really be happy if you had fried chicken?

- Have it respond to statements of the form “I *something* you” with the restructuring “Why do you *something* me?” For example:

Statement: I like you.

Response: Why do you like me?

Find an example of when this structure does not work well. How can you improve it?

The system above that replis with "why do you " + x + " me?" is completely reliant on the verb being in present tense. You could fix this problem by cross referencing the words with dictionary.com or another digitally accessible dictionary to detect the tense of each word. ex: "Why do you would like me?"