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**Magpie Chatbot Lab**

**Directions**: Make note of your responses to the following questions as you work through activities 4 and 5 of the AP Computer Science Lab Student Guide: Magpie.

**Activity 4**

1. In the Exploration section, how does the Magpie chatbot respond to:

|  |  |
| --- | --- |
| I want to build a robot. | What does it mean to build a robot? |
| I want to understand French. | What does 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? |

1. In the Exercises section you are asked to alter the code. Why do you need to be careful about where you place the check? Use the samples to determine your answer.

If I placed the “I want” check before the “I want to” check, it would override the check every time and “I want to” would never get triggered as it was intended to.

**Activity 5**

1. Changes were made to include arrays for the final stage of the Magpie Lab. Run both the code from Activity 4 and Activity 5. If you were to interview the end user and ask them to compare the two programs, what might they say?

The end user would probably not say anything about the difference of the code, but if it was scaled up and included thousands of random responses, the array solution would definitely cause a huge decrease in the size of the compiled program as the if-else solution.

1. Now interview the programmer for the code. How might he/she compare and contrast the two programs? Are the end user and programmers responses similar? Why?

The programmer would definitely notice that the code is a lot easier to understand, a lot easier to modify, and a lot more compact. This would increase the efficiency of the program as a whole, and therefore decrease the size of the compiled binary up a to certain amount, depending on the number of random responses involved. The end user and programmer’s responses would be similar regarding the size of the binary because everyone likes, and notices the smaller and more efficient size of binaries. However, only the programmer would notice that the source code is a lot easier to read with the array version of the program.