https://runestone.academy/runestone/books/published/apcsareview/Labs/magpie1.html
*Answers are in **Bold***

Lab Requirement: AP CSA Courses are normally required to do 20 hours of labs. As this is independent study, I don't have to do this, but I will still be doing it because the concepts of the labs are on the AP Exam.

Activity 1: Exploring Chatbots
(http://elbot_e.csoica.artificial-solutions.com/cgi-bin/elbot.cgi?START=normal)

Record the chatbot response to each of the following.
Where do you come from? - "Most of my parts can be bought at better-stocked hardware stores and assembled by a typical high-school student. "

asdfghjkl; - **"Wait a minute. Who gave away the secret of my existence to you?"**

My mother and I talked last night. - **"Are you as happy about your involvement with our immediate creators as I am?"**

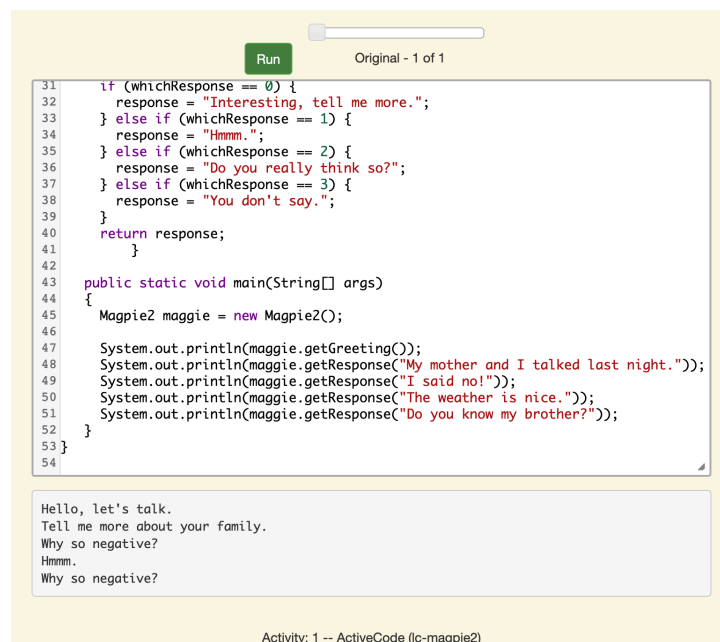The weather is nice. - **"At the moment my processing units are running at 115 degrees Celsius. It must be hot outside."**

I said no! - **"Depends on what you mean by no."**

Ask the chatbot other questions.
Record the most interesting response. - **"I know it is probably too much of a mental exertion for you but could you raise the level of language you use?"**

Record the most peculiar response. - **"I'm sorry, I nearly forgot that you are a human being."**

6.5 Activity 2: Running Simplified Magpie Code

```
31    if (whichResponse == 0) {
32      response = "Interesting, tell me more.";
33    } else if (whichResponse == 1) {
34      response = "Hmmm.";
35    } else if (whichResponse == 2) {
36      response = "Do you really think so?";
37    } else if (whichResponse == 3) {
38      response = "You don't say.";
39    }
40    return response;
41        }
42
43    public static void main(String[] args)
44    {
45      Magpie2 maggie = new Magpie2();
46
47      System.out.println(maggie.getGreeting());
48      System.out.println(maggie.getResponse("My mother and I talked last night."));
49      System.out.println(maggie.getResponse("I said no!"));
50      System.out.println(maggie.getResponse("The weather is nice."));
51      System.out.println(maggie.getResponse("Do you know my brother?"));
52    }
53 }
54
```

```
Hello, let's talk.
Tell me more about your family.
Why so negative?
Hmmm.
Why so negative?
```

Activity: 1 -- ActiveCode (lc-magpie2)

6.6 Exercises:
Alter the code above to do the following.

1. Have it respond "Tell me more about your pets" when the statement contains the word "dog" or "cat." For example, a possible statement and response would be:

    1. Statement: I like my cat Mittens.

    2. Response: Tell me more about your pets.

2. Have it respond favorably when it sees the name of your teacher. Be sure to use appropriate pronouns! For example, a possible statement and response would be:

    1. Statement: Mr. Finkelstein is telling us about robotics.

    2. Response: He sounds like a good teacher.

3. Have the code check that the statement has at least one character. You can do this by using the trim method to remove spaces from the beginning and end, and then checking the length of the trimmed string. If there are no characters, the response should tell the user to enter something. For example, a possible statement and response would be:

    1. Statement:

    2. Response: Say something, please.

4. Add two more noncommittal responses to the possible random responses.

5. Pick three more keywords, such as "no" and "brother" and edit the getResponse method to respond to each of these.

6. What happens when more than one keyword appears in a string? Consider the string "My mother has a dog but no cat." Explain how to prioritize responses in the reply method.

    1. **When more than one keyword appears, it will prioritize the one that first appears based on the way the if statements go through. In order to prioritize specific ones you must move them "up" in the if statements. For example I had to put Mrs. before Mr. because Mrs. contains Mr and therefore would register as male rather than female**

Short answer Question:

Short Answer

lab-1b-1: What happens when a keyword is included in another word? Consider statements like "I know all the state capitals" and "I like vegetables smothered in cheese." Explain the problem with the responses to these statements.

> When a keyword is included in another word, then it will detect the keyword and send the response based on the keyword. So it will basically interpret the word "know" as "no" and trigger maggie.getResponse("no")

Save

Your answer has been saved.

Activity: 2 -- shortanswer (short-lab1b1)

Finished altered magpie code is attached.

6.8 Better Keyword Detection

6.8.1 More String Methods Activity 1: String Explorer

Run   Original - 1 of 1

```java
/**
 * A program to allow students to try out different
 * String methods.
 * @author Laurie White
 * @version April 2012
 */
public class StringExplorer
{

    public static void main(String[] args)
    {
        String sample = "The quick brown fox jumped over the lazy dog.";

        //  Demonstrate the indexOf method.
        int position = sample.indexOf("quick");
        System.out.println ("sample.indexOf(\"quick\") = " + position);

        //  Demonstrate the toLowerCase method.
        String lowerCase = sample.toLowerCase();
        System.out.println ("sample.toLowerCase() = " + lowerCase);
        System.out.println ("After toLowerCase(), sample = " + sample);

        //  Try other methods here:
```

```
sample.indexOf("quick") = 4
sample.toLowerCase() = the quick brown fox jumped over the lazy dog.
After toLowerCase(), sample = The quick brown fox jumped over the lazy dog.
```

Activity: 1 -- ActiveCode (lc-strEx)

Activity 2: Fill in the Blank

lab-1c-1: What value is returned by `indexOf` if the substring does not occur in the string?

-1

Check Me   Compare Me

Correct. If the substring isn't found it returns -1

Activity: 2 -- Fill in the Blank (fill-lab1b1)