Name:   
Date:

**Magpie Chatbot Lab**

**Directions**: Make note of your responses to the following questions as you work through activities 1, 2, and 3 of the AP Computer Science Lab: Magpie.

# **Activity 1**

1. Which chatbot did you use?
   1. [The Professor, an educational chatbot.](https://www.pandorabots.com/pandora/talk?botid=935a0a567e34523c)
2. Paste your conversation with the chatbot below.

**You:**

What is your name?

**The Professor:**

My name is Peter, but most people call me The Professor.

**You:**

Where do you live?

**The Professor:**

I live in Cambridge in England.

**You:**

asdfghjkl;

**The Professor:**

That doesn't make sense!

**You:**

What question can't be answered with a yes?

**The Professor:**

What question can't be answered with a yes? Are you asleep? Ha ha!

**You:**

What bands do you like?

**The Professor:**

I like the Red Hot Chick Peas.

**You:**

Why did the man put his money in the freezer?

**The Professor:**

Why did the man put his money in the freezer? He wanted cold hard cash. Ha ha!

1. What was the most interesting or peculiar response? Why?
   1. The most peculiar response for me was the one where I asked what band he likes and he responded with Red Hot Chick Peas; I didn’t know that was a band.
2. Think about your conversation with a chatbot. Identify key words to which you think the chatbot responds.
   1. I would say it would be words that aren’t used in every sentence. It searches the database that it has access to.
3. Suggest several key words and the possible corresponding responses.
   1. There are many keywords but in the questions that i had asked him the ones i would say are “your name”, “Band you like”, etc.

# **Activity 2**

1. What happens when a key word 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.
   1. These statements include the words “no” in them so magpie will see that and print “Why so negative”

1. The lab suggests using the trim method from the String class. How does it work? Show an example of a String value before and after the trim method is invoked.
   1. trim will get rid of extra whitespace from the beginning and the end of a string
   2. ex: “ The quick brown fox jumps over the lazy dog ” = “The quick brown fox jumps over the lazy dog”
2. Paste the code below showing the additional two noncommittal responses added to getRandomResponse.
   1. private String getRandomResponse() {
   2. final int NUMBER\_OF\_RESPONSES = 6;
   3. double r = Math.random();
   4. int whichResponse = (int) (r \* NUMBER\_OF\_RESPONSES);
   5. String response = "";
   6. if (whichResponse == 0) {
   7. response = "Interesting, tell me more.";
   8. } else if (whichResponse == 1) {
   9. response = "Hmmm.";
   10. } else if (whichResponse == 2) {
   11. response = "Do you really think so?";
   12. } else if (whichResponse == 3) {
   13. response = "You don't say.";
   14. } else if (whichResponse == 4) {
   15. response = "Is that so?";
   16. } else if (whichResponse == 5) {
   17. response = "I see";
   18. }
   19. return response;
   20. }
3. Complete the table below. List the additional keywords and responses you added to the getResponse method.

| Keyword | Response |
| --- | --- |
| Grandpa,Grandma | Tell me more about your grandparents |
| Pet | What type of pet are they? |
|  | Say something, please |
| Mr. Robinson | Tell me more about this wonderful teacher. |

1. 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. Did this impact any changes you made to the getResponse method?
   1. It will register mother first since that is the word that comes first and then it will ask more about your family

# **Activity 3**

Trace through the following method calls. Write the value of the variables position, before, and after each time the program control reaches the point in the method indicated by the comment.

1. findKeyword( "She’s my sister", "sister", 0);

| Iteration | position | before | after |
| --- | --- | --- | --- |
| 1 | 9 | 8 | 5 |

1. findKeyword( "Brother Tom is helpful", "brother", 0);

| Iteration | position | before | after |
| --- | --- | --- | --- |
| 1 | -1 | 0 | 0 |

1. findKeyword( "I can’t catch wild cats.", "cat", 0);

| Iteration | position | before | after |
| --- | --- | --- | --- |
| 1 | 8 | 7 | 15 |
| 2 | 19 | 18 | 4 |

1. findKeyword( "I know nothing about snow plows.", "no", 0);

| Iteration | position | before | after |
| --- | --- | --- | --- |
| 1 | 3 | 2 | 28 |
| 2 | 7 | 6 | 24 |
| 3 | 22 | 21 | 9 |

1. Your choice. Fill in the parameters and then trace the method call.  
   findKeyword( "The quick brown fox jumps over the lazy dog", "o", 0 );

| Iteration | position | before | after |
| --- | --- | --- | --- |
| 1 | 12 | 11 | 30 |
| 2 | 17 | 16 | 25 |
| 3 | 26 | 15 | 16 |
| 4 | 41 | 40 | 1 |