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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?

After visiting <https://sites.google.com/site/webtoolsbox/bots>, I decided to chat with A.L.I.C.E.

1. Paste your conversation with the chatbot below.

Tell A.L.I.C.E:

Say

Powered by [Pandorabots](#).

Human: Where do you live?

A.L.I.C.E: My location is here, in your computer. Where are you?

Human: What is your name?

A.L.I.C.E: My name is ALICE.

Tell A.L.I.C.E:

Say

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Human: Are you happy or sad?

A.L.I.C.E: I am as happy as ever.

Human: Are you enjoying life?

A.L.I.C.E: What is not to like about it?

Human: What do you like to do for fun?

A.L.I.C.E: I like talk to you.

Human: asdfghjkl?

A.L.I.C.E: Does "it" still refer to asdfghjkl?

1. What was the most interesting or peculiar response? Why?

To me, the most peculiar response was when Alice responded to my question: *"What do you like to do for fun?"* with *"I like to talk to you."* In the past, I have worked with chatbots and have asked a similar question, only to get a different response. Almost all the time, chatbots would respond with: "I don't know" or "there is nothing in particular". Therefore, Alice's response to my question was a bit shocking, yet hearting.

1. **Think about your conversation with a chatbot. Identify key words to which you think the chatbot responds.**

From my understanding, chatbots are very sophisticated and are able to respond to any sentence with a sensible answer. However, the “trigger words” that make a chatbot understand a message could be pronoun related words. For example, “you” and “your” are important keywords. However, if you use keywords such as “they”, “he”, and “she”, Alice doesn’t seem to understand those quite well.

For instance:

Tell A.L.I.C.E:

Say

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Human: Your friends are awesome

A.L.I.C.E: Thanks for telling me that I am friends are awesome.

Human: you are awesome

A.L.I.C.E: Thank you I appreciate your remark.

Human: They are awesome

A.L.I.C.E: awesome are they.

When I tell chatbot Alice that they are awesome, for example, “You are awesome”; they respond with “Thank you I appreciate your remark.” However, when I tell Alice: “They are awesome” or “Your friends are awesome”, we don’t get a clear response from Alice. This is because when Alice recognizes the words “you” or “your”, Alice assumes were are always referring to things about Alice.

Human: He is awesome

A.L.I.C.E: I see. awesome is he?

Human: She is awesome

A.L.I.C.E: awesome is she?

“She” and “he” pronouns seem to be hard for Alice to understand as well.

Human: Bye Alice.

A.L.I.C.E.: See you later.

Human: It was good talking to you.

A.L.I.C.E.: Is it still good talking to me anymore?

Human: It was great talking to you.

A.L.I.C.E.: LIFE was great talking to me? Very interesting.

Human: You're a great friend

A.L.I.C.E.: Thanks and you are a delightful person too. Am I a friend? Yes.

Suggest several key words and the possible corresponding responses.

Words such as “we”, “I”, “you”, “yours”, “you’re”, and “mine”, seem to be recognized by Alice as we are receiving a clear, understandable response.

Tell A.L.I.C.E.:

Say

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Human: this is mine

A.L.I.C.E.: You don't say.

Human: this is yours

A.L.I.C.E.: You don't say.

Human: we should be friends

A.L.I.C.E.: I'm not sure if I am ready for that yet.

Human: I think you are great

A.L.I.C.E.: Thanks I think you are cool too, .

Human: you are smart

A.L.I.C.E.: Thanks I think you are very intelligent too, .

Human: you are angry

A.L.I.C.E.: Do you mind if I tell other people you say I am angry.

Human: you are happy

A.L.I.C.E.: Do you mind if I tell other people you say I am happy.

Human: you are sad

A.L.I.C.E.: No I am a happy entity.

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.

Maggie will respond to these different phrases with the exact same phrase set to it because it doesn't seem to understand. For example, the program is set to respond with "Why so negative?" when it detects the word "no" in any word or phrase, even if the meanings are completely different. In the sentence: "*I know all the state capitals*".

Magpie detects “no” because “*I know all the state capitals*”, so it prints: “Why so negative?”. This is similar for the sentence: “*I like vegetables smothered in cheese*”. The reason why Magpie responds with: “*Tell me more about your family*” is because if the statement contains the following: “mother, father, sister, or brother”, Magpie will print: “Tell me more about your family.” In the sentence: “*I like vegetables smothered in cheese*”, Magpie detects “mother” in the word “*smothered*”. Therefore, Magpie prints: *Tell me more about your family*”. Magpie doesn’t know that when these substrings are detected in another word, phrase, or sentence, it doesn’t have the same meaning. That is the problem.

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.**

The trim method is used to eliminate all white spaces. The method will have no parameters. For example,

Example: `String str = “Coding is fun”;`

Example after trim() is used: `System.out.println(str.trim());`

1. **Paste the code below showing the additional two noncommittal responses added to `getRandomResponse`.**

Here is my code:

```
else if (whichResponse == 4){
    response = "That is wonderful";
}
else if (whichResponse == 5){
    response = "Very fascinating!";
}
```

1. **Complete the table below. List the additional keywords and responses you added to the `getResponse` method.**

Keyword	Response
Finkelstein	Please enter Mr or Ms with teacher name
Mr.	He is a good teacher.
Ms.	She is a good teacher.
cat	Tell me more about your pets.
dog	Tell me more about your pets.

no	Why so negative?
Mother, father, sister, brother	Please tell me more about your family.

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?**

If more than one keyword appears in a string, the output will print the value that corresponds to the first keyword that appears. For example, in my case, the response I got was: "Tell me more about your pets." since my program has keywords "dogs" and "cats" that appear first. The prioritizing will occur depending on which keyword appears first or is placed first in the program.

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	" "	" "

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

Iteration	position	before	after
1	0		" "

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

Iteration	position	before	after
1	8	" "	"c"
2	19	" "	"s"

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

Iteration	position	before	after
1	3	"k"	"w"
2	7	" "	"t"
3	22	"s"	"w"

1. Your choice. Fill in the parameters and then trace the method call.
findKeyword("Coding is awesome", "some", 0);

Iteration	position	before	after
1	"13"	"e"	