

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?

Elbot the robot

2. Paste your conversation with the chatbot below.

Human: Will you help?

A.L.I.C.E: Hmm. Can you ask for help in the form of a question?

Human: YEs

A.L.I.C.E: Interesting plan. Good luck.

Human: By completing my program for me

A.L.I.C.E: Will that accomplish your objective?

Human: Yes

A.L.I.C.E: How can I help you?

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

“Hmm. Can you ask for help in the form of a question” because it showed her programmatic thinking process

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

“yes”, “for me”, “completing”, “help”

5. Suggest several key words and the possible corresponding responses.

“Woof!” → are you a dog? “Achoo!” → bless you! “Thank you” → any time :)

Activity 2

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.

When keywords are included in other words, the response is to the keyword with the higher priority rather than the other words

2. 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.

“ Hello! “.trim() == “Hello!”

3. Paste the code below showing the additional two noncommittal responses added to

```
getRandomResponse.  
else if (whichResponse == 4)  
{  
  response = "...";  
}  
else if (whichResponse == 5)  
{  
  response = "One second... Ok, I'm back.";  
}
```

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

rocker	Blast off!
computer	Hmm... Are you talking about me?
science	My creators are good at science!

5. 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?

Whichever keyword comes first in the code is the one with the higher priority. In the states example, mother has a higher priority, so it will be the response condition

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	“ “	””

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

Iteration	position	before	after
1	0	""	" "

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

Iteration	position	before	after
1	8	" "	"c"
2	20	" "	"s"

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

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

- 5) Your choice. Fill in the parameters and then trace the method call.
findKeyword("The answer to life is 42.", "answer", 0);

Iteration	position	before	after
1	4	“ “	“ “