Chatterbot: solutions

Predict

Take a look at the code below. Read it carefully and try to make a prediction about what might happen when this code is executed. Think what might happen based on different user inputs e.g. `anakin` / `bob`

```
print("What is your name?")
name = input().lower()
if name == "anakin":
  print("How do you do Anakin!")
else:
  print(f"Nice name, {name}")
print(f"So {name}, is it hot or cold where you are today?")
weather = input().upper()
if weather == "COLD":
  print("You must be freezing!")
elif weather == "HOT":
  print("Drink plenty of water")
else:
  print("I can't advise you on that type of weather.")
print("Do you like the colour blue?")
likes_blue = input()
if likes_blue == "Yes":
  print("I like blue too")
print("Have a good day! Bye!")
```

Run

Open and **run** the file with this code. Here's a copy of the code (https://replit.com/@awade05/chatterbot#main.py if needed.

Was your prediction correct? Did anything unexpected happen? Write down your thoughts below:

Investigate

Questions / Activities	Your answers ▿

Execute the code and type `ANAKIN` in upper case when asked what is your name. • What text is immediately output on the screen?	How do you do Anakin!
Execute the code again and type `anakin` in lower case when asked what is your name. • What text is immediately output on the screen?	How do you do Anakin!
Go to line 2 and delete `.lower()` from the end of the line of code. Execute the code again and type `ANAKIN` in upper case. • What text is immediately output on the screen?	Nice name, ANAKIN
Execute the code again and type `anakin` in lower case when asked what is your name. • What text is immediately output on the screen?	How do you do Anakin!
Add the `.lower()` code back to the end of line 2. • What function do you think `.lower()` performs? **Hint:** If you are unsure, enter this code `print(name)` at line 3 to print what has been held in the variable `name`. Remember to delete it after testing.	It converts what has been inputted to lower case.
Line 8 has `.upper()` at the end of the input. • What function do you think it performs? **Hint:** Use the same investigation techniques as above if you are unsure.	It converts what has been inputted to input to uppercase.

- Why do you think `.lower()` and `.upper()` might be important when you are checking if conditions are True or False?

It helps the input from the user match with what is written in the condition.

For example, if the condition is

`name == “anakin”`

and the user types Anakin or ANAKIN, the condition will still count as True because it will have converted the string input to lowercase.

Line 5 and 6 contain an `else:` and a `print` statement.

- Does the condition `name == "anakin":` need to be True or False for these lines of code to execute?

False

Lines 9 to 12 contain this code:

```
if weather == "COLD":
  print("You must be freezing!")
elif weather == "HOT":
  print("Drink plenty of water")
```

- If the user enters `cold` to the weather question, what will be output on the screen directly after?

You must be freezing!

- If the user enters `hot` to the weather question, what will be output on the screen directly after?

Drink plenty of water

Lines 13 to 14 contain this code:

```
else:

  print("I can't advise you on that type of weather.")
```

If the user types anything that isn't cold or hot, then this message will be output.

- What does the user need to enter for it to output "`I can't advise you on that type of weather`"?

Lines 17 and 18 contain this code

```
if likes_blue == "Yes":

  print("I like blue too")
```

They would need to type `Yes` exactly as it is written.

- What does the user need to enter for "`I like blue too`" to be output?

What is displayed on the screen if the user types `yes`, `YES` or anything else?

The condition is checked and if it is false then the next line isn't executed. It will go straight to displaying "Have a good day! Bye!".

Modify

Modification	Hint
Adapt the code on lines 16 and 17 so that the input is converted to **upper case** and this is checked in the **condition**.	Take a look at line 8 and 9 to see how it has been achieved there. Remember to test your code.
At line 7, introduce an `elif` branch that checks if the name is Leia. If the name is Leia, then the message should display “The force is with you”.	Look at the `elif` used for when the weather is hot to see how to structure the code. Remember to test your code. **Common errors** ❏ The `elif` has been indented (make sure that it is in line with the if above) ❏ leia not written in lowercase inside the condition ❏ A colon `:` is missing from the end of the condition. ❏ The `print` statement is not indented under the `elif`

Use an `else` with the final `if` statement.

```
if likes_blue == "YES":
```

If the user doesn't enter `Yes` when asked if they like blue, then the program should output "That's a shame because I really like blue".

Remember that `else:` doesn't need a condition.

Remember to test your code.

Common errors

- ❏ `else` has been spelt with a capital E
- ❏ The colon : is missing after the else
- ❏ The `print` statement underneath isn't indented

Explorer task

- Modify the program further by adding in another question at the end. Use `if`, `elif`, `else` to provide tailored responses.
- Rephrase the questions and responses to the questions to something different. For example, what is your favourite breed of dog?