

CMPT 120

Lecture 4 – Chatbots Python - Conditional statements (Branching)

Last Lecture

 Introduced Natural language processing and Chatbots

✓We built chatbots using

- print(...) and input(prompt)
- data type str
- variables
- string formatting
- list
- random module

From last lecture: Review Questions

- 1. How do you print in Python?
- 2. What is the command or function to get input from the user?
- 3. How do you concatenate two words in Python?
- 4. How do you store an input from the user?
- 5. What symbol do we use to assign a value to a variable?
- 6. What is an example of a chatbot?

From last lecture: Review Questions

- 7. How do we make a list in Python?
- 8. What module do we need to import to randomly choose something from a list?
- 9. How can we test smaller pieces of our Python code?
- 10. What does a dot after a module name do?
- 11. What is the only kind of symbol we can have in a variable name?



From last lecture: Your turn!

• Step 1 - Problem Statement

• Write a chatbot that prints random fortune cookie quotes.

Possible Solution

```
randomFortuneCookieQuote.py
 Description: Chatbot that prints random fortune cookie quotes
# Author: Anne Lavergne
# Date: W Sept. 13 2023
import random
# Create the fortune cookie guotes
fortuneQuotes = ["You will have a long and happy life.",
                 "You will have many children.",
                 "You will be successful in business.",
                 "You will find true love."]
# Select one fortune cookie quote randomly
randomFortune = random.choice(fortuneQuotes)
# and print it
print(randomFortune)
```

Notice ...

- Location of import statement
- Left-aligned code
- input (prompt) returns a string
 - A string has the data type str
- Good Programming Style GPS
 - Give your variables descriptive names
 - Length of our lines of code: 80 characters



GPS and user interaction

- As a user, which one would you prefer?
- User interaction # 1

```
>>> name = input()
Anne
>>> print(name)
Anne
>>>
```

User interaction # 2

```
>>> name = input("Please, enter your first name: ")
Please, enter your first name: Anne
>>> print("You have entered " + "'" + name + "'" + " as your first name.")
You have entered 'Anne' as your first name.
>>>
```



Today's Menu

- We shall introduce branching
 - A way of controlling the execution flow when the program is executed

Let's introduce Branching (Python conditional statements)

Step 1 - Problem Statement

 Create a chatbot that asks a user how their day is going, and make a comment that changes depending on how the user answered



[10]

How can we improve our program?

Introducing the Boolean operator Of

How can we improve our program?

- How to make our program more robust?
 - User can answer with a word which can be written with upper and/or lower case letters
 - Example: Yes, yes, YES
 - Introducing string functions upper() and lower()
 - User can include blank spaces in their answers
 - Example: "Yes "or "yes "and these answers do not match "YES"
 - Introducing string function strip()

How can we improve our program?

Introducing the Boolean operators in and not in

Notice ...



contain a Boolean expression:

```
response == "Great!"
```

and Boolean expressions can be **True** or **False**.

Note:

• We could write:

result = response == "Great!"

in our Python program

- Variable result would have the data type: bool
- bool is short for Boolean

Review: Conditional statements



Review: Conditional statements



Your turn!

Step 1 - Problem Statement

• Write a login program, which allows a user to login in with a password

Review Questions

1. What is wrong with this code?
3_colours = ["blue", "green", "white", "pink"]

- 2. Why do we want to put an **import** statement at the beginning (top) of a program?
- 3. When a program executes, what is first executed?
- 4. Is the if part of a conditional statement mandatory?

Review Questions

- 5. Is the **else** part of a conditional statement mandatory?
- 6. What is wrong with this code fragment? if color = "purple": print("Cool!")
- 7. How could this code be improved? favBand = input() print("Oh, I like this band!")



Next Lecture

- More on conditional statements and Boolean expressions (conditions)
 - What if there are many conditions (many branches)?
 - What if we are dealing with integers?
 - Can these conditional statements be nested?