Python JARVIS Speech Recognition

Contents

Time required: 90 minutes

This series of tutorials were inspired by
https://www.freecodecamp.org/news/python-project-how-to-build-your-own-jarvis-using-python/

NOTE: You may need to run this program from the command line or IDLE for it to work.

The JARVIS Project

Please create a JARVIS repository in your GitHub account.

Wikipedia

As part of saving the universe, there are times we need to do research. What type of food do the aliens eat, are they immune to our germs, etc.

The Python Wikipedia library allows us to access information from Wikipedia. This is an older library which still works.

https://pypi.org/project/wikipedia/

1. Go to a command prompt → **pip install wikipedia**

Tutorial Part 1

With all the JARVIS tutorials, we will start from the bare bones, and build to an OOP version. We are going to start with a simple Wikipedia program.

Code

```
"""
    Name: wikipedia_1.py
    Author:
    Created:
    Purpose:
"""

# pip install wikipedia
import wikipedia


# Type in your search term
result = input("Search Wikipedia: ")

# Return a summary result of 3 sentences
summary = wikipedia.summary(result, sentences=3)

# Print result
print(summary)
```

Example run:

```
Search Wikipedia: Python
Python is an interpreted high-level general-purpose programming language. Its de
sign philosophy emphasizes code readability with the use of significant indentat
ion. Its language constructs and object-oriented approach aim to help programmer
s write clear, logical code for small- and large-scale projects.Python is dynami
cally-typed and garbage-collected.
```

Tutorial Part 2

We are going to build a Wikipedia OOP method program that we can integrate with our ongoing JARVIS program. The example run is the same. The difference is that we can copy this method into our ongoing JARVIS project and access it with Speech Recognition and use Text to Speech to have JARVIS read the Wikipedia entry.

```python
"""
    Name: wikipedia_2_oop.py
    Author:
    Created:
    Purpose: OOP method which can be integrated
    into main JARVIS project
"""

# pip install wikipedia
import wikipedia


class WikipediaApp:
    def __init__(self):
        pass

    def get_wikipedia(self):
        """
            Search Wikipedia
        """
        try:
            # Type in your search term
            result = input("Search Wikipedia: ")
            # Return a summary result of 3 sentences
            self.__summary = wikipedia.summary(result, sentences=3)

        except:
            # Use raise for troubleshooting exceptions
            # raise
            # If there is an exception, allow the user to try again.
            print("Try a different search term.")

    def display_wikipedia(self):
        """
            Display Wikipedia search results
        """
        print(self.__summary)


# Create a jarvis program object
wikipedia_app = WikipediaApp()
while True:
    wikipedia_app.get_wikipedia()
    wikipedia_app.display_wikipedia()
```

Example run:

```
Search Wikipedia: Python
Python is an interpreted high-level general-purpose programming language. Its de
sign philosophy emphasizes code readability with the use of significant indentat
ion. Its language constructs and object-oriented approach aim to help programmer
s write clear, logical code for small- and large-scale projects.Python is dynami
cally-typed and garbage-collected.
```

Assignment: The JARVIS Project

At this point, the JARVIS Project contains voice recognition and text to speech. The following table shows possible uses of each module. For a robust interface, you may want to print and have JARVIS speak.

Module	Purpose
Text to speech	Announce menu choices Prompt user for input Announce command results
Voice recognition	Make menu choices Provide input

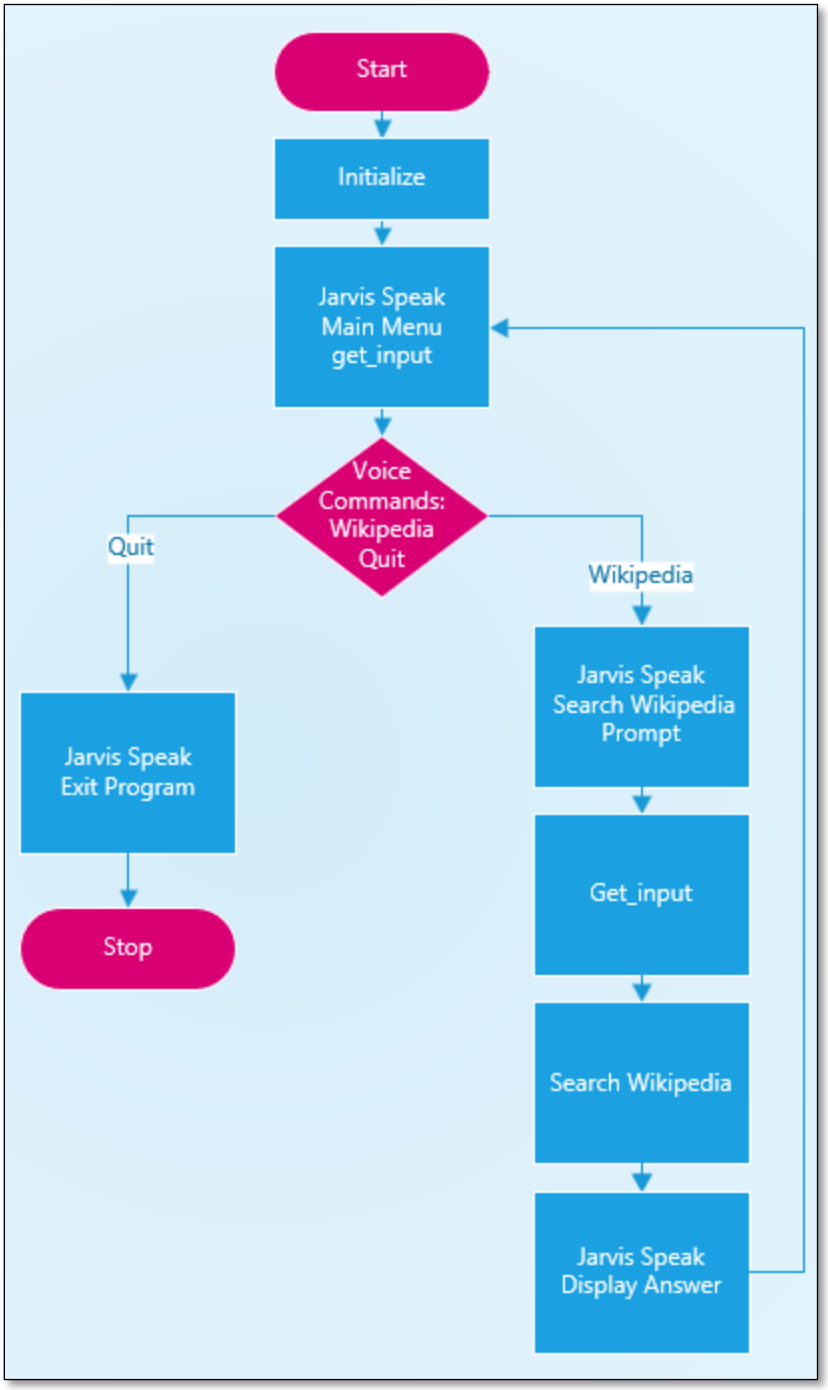
It is now up to you. The world is under attack from creatures from another dimension, we don't know what we are dealing with. We need some help from Wikipedia.

In your JARVIS program:

1. Add **import wikipedia** to the top of the program.
2. Copy the **get_wikipedia()** method into your program. Don't copy the entire program, just the method.
3. Use the **get_command()** method to ask Wikipedia a question and display the answer. Your program output does not have to match.

Flowchart

The following flowchart shows the basic flow of the program.



Example run:

```
+--------------------+
|  JARVIS Main Menu  |
+--------------------+
Commands: Wikipedia, quit
Listening....
Recognizing . . .
Wikipedia
Listening....
Recognizing . . .
python

Python is an interpreted high-level general-purpose programming language. Its de
sign philosophy emphasizes code readability with the use of significant indentat
ion. Its language constructs and object-oriented approach aim to help programmer
s write clear, logical code for small- and large-scale projects.Python is dynami
cally-typed and garbage-collected.
+--------------------+
|  JARVIS Main Menu  |
+--------------------+
Commands: Wikipedia, quit
Listening....
Recognizing . . .
quit
Goodbye!

Have a good day!
```

Assignment Submission

This is an ongoing project you can add to outside of these assignments. We have learned how to have JARVIS recognize speech, talk to us, and run a program. The sky is the limit! This could be a good project to add to your GitHub software engineering resume.

1. Attach a screenshot of your completed GitHub repository.
2. Attach a screenshot of your working program.
3. Insert the URL of your GitHub repository.
4. Attach the pseudocode.
5. Submit in Blackboard.