ProjectNotebook

June 11, 2021

1 Project Description

Write a brief description of your project here.

Note that projects should be self-sufficient, so make sure to provide enough information and context here for someone to understand what you are doing in your project, and why.

In my project, I am trying to create a math chatbot that has three main functions. The three primary tasks include 1) it allows the user to get the definition of a key term immediately, 2) it allows the user to create their own list using key terms that existed in the example dictionary, and 3) it allows the user to calculate a point's location from the origin quickly. The chatbot would also include general functions such as greeting the user and quitting the program. If there is more time, I would also have a process that allows users to add new key terms to the pre-exited dictionary. However, I ran out of time as I faced multiple challenges when importing the functions and debugging them.

1.1 Project Code

If it makes sense for your project, you can have code and outputs here in the notebook as well.

[1]:
```
from final_functions import get_response
from final_functions import greeting
from final_functions import get_definition
from final_functions import creat_list
from final_functions import pythagoran_theorem
import math
```

[2]:
```
# Do a bunch of things.
vocab_list = { }
pre_dic = {'RADIUS':'a straight line extending from the center of a circle or␣
 ↪sphere to the circumference or surface',
                   'CHORD':'the line segment between two points on a given␣
 ↪curve',
           'DIAMETER': 'a straight line passing through the center of a circle␣
 ↪or sphere and meeting the circumference or surface at each end'}


def have_a_chat():
    #it will allow the conversation running
```

```
    chat = True
    msg = get_response()
    #the chatbot will greet the user with pre-existed greeting direction
    greeting(msg)

    while chat:
        msg = get_response()

        if msg == 'GET DEFINITION':
            print('please choose from radius, chord, diameter')
            #the user will choose a keyterm by inputting
            msg2 = get_response()
            #the get_definition function will present the corresponding␣
↪definition of the keyterm
            get_definition(msg2)

        if msg == 'CREATE LIST':
            print('please choose from radius, chord, diameter')
            msg2 = get_response()
            #the system will creat a new list filled with terms chosen by the␣
↪user
            creat_list(msg2)

        if msg == 'DISTANCE':
            print('please enter the number in the format of num1,num2. with no␣
↪space after the comma!')
            msg2 = get_response()
            #the system will calculate the distance and present the result
            pythagoran_theorem(msg2)

        if msg == 'QUIT':
            #it turn off the chatbot
            chat = False
            print('Bye')
```

[6]:
```
have_a_chat()
```

```
INPUT : hi
Hi, I am Mathy! Please select the below options: 'get defintion', 'create list',
'distance'! You have to type in each option again after finished using the
previous one. To stop the conversation, please type in 'quit'.
INPUT : get definition
please choose from radius, chord, diameter
INPUT : radius
a straight line extending from the center of a circle or sphere to the
circumference or surface
INPUT : create list
```

```
please choose from radius, chord, diameter
INPUT : radius
{'RADIUS': 'a straight line extending from the center of a circle or sphere to
the circumference or surface'}
Successfully added to list.
INPUT : create list
please choose from radius, chord, diameter
INPUT : chord
{'RADIUS': 'a straight line extending from the center of a circle or sphere to
the circumference or surface', 'CHORD': 'the line segment between two points on
a given curve'}
Successfully added to list.
INPUT : distance
please enter the number in the format of num1,num2. with no space after the
comma!
INPUT : 2,3
3.605551275463989
INPUT : quit
Bye
```

[4]:
```
!pytest test_functions.py
```

```
============================= test session starts
==============================
platform linux -- Python 3.8.6, pytest-6.2.1, py-1.10.0, pluggy-0.13.1
rootdir: /home/y2tan/Project_COGS18_SP21/my_module
collected 4 items


test_functions.py ....
[100%]

============================== 4 passed in 0.03s
===============================
```

Extra Credit (*optional*) I have never learned how to code before. Due to the lack of experience, it is tough to figure out where it went wrong when the importation is not working and when code testing is not running correctly. It is also challenging to think of ways to make the program easy to understand while minimizing the number of works and using an external function like the math function as I have to take time to understand the process.