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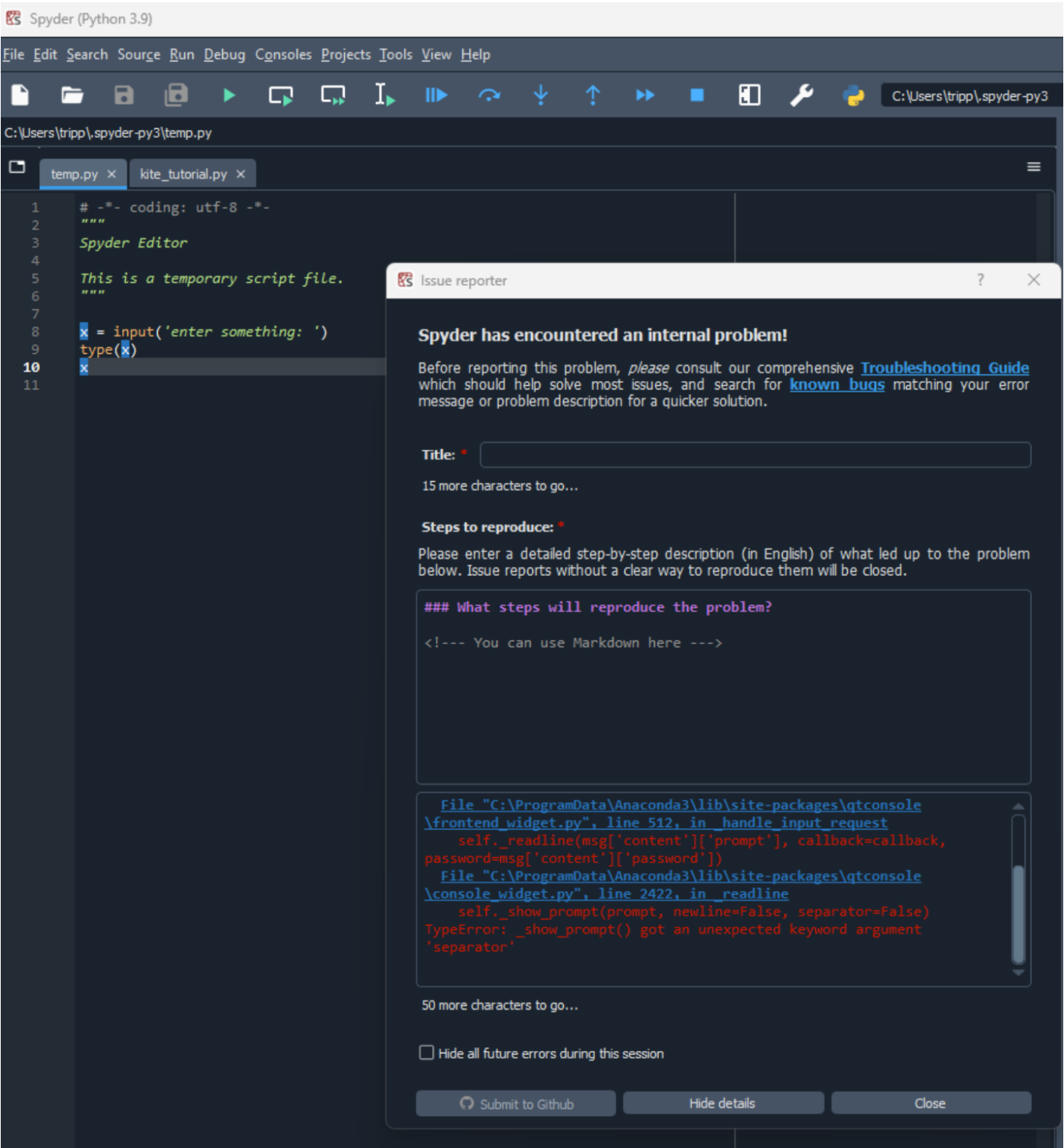
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**Exercise: guess my number**

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Finger Exercises due Oct 27, 2022 07:30 +08    Completed

Note that some **Windows users** using a specific Spyder version may notice that their **Spyder crashes** with the following error **when using the input command** to get user input. Try getting user input to see if your Spyder crashes. Instructions below the image help you fix this issue.



A) If you are comfortable with installing a different Python code editor, we recommend VSCode or PyCharm. Otherwise...

B) If you want to continue using Spyder, please upgrade it to 5.3 from [this link](#). Then try running `import numpy` and `import matplotlib` in the console (at the bottom right). If the import works there is no message. If that doesn't work, change the python environment with [instructions from this link](#) to point at your anaconda installation.

## Exercise: guess my number

10.0/10.0 points (graded)

**ESTIMATED TIME TO COMPLETE: 15 minutes**

In this problem, you'll create a program that guesses a secret number!

The program works as follows: you (the user) thinks of an integer between 0 (inclusive) and 100 (not inclusive). The computer makes guesses, and you give it input - is its guess too high or too low? Using bisection search, the computer will guess the user's secret number!

Here is a transcript of an example session:

Please think of a number between 0 and 100!  
To your secret number 50?

Hide Notes

```
Is your secret number 50?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 75?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 87?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. h
Is your secret number 81?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 84?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. h
Is your secret number 82?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 83?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. c
Game over. Your secret number was: 83
```

### Hint: Endpoints

**\*\* Your program should use bisection search. So think carefully what that means. What will the first guess always be? How should you calculate subsequent guesses?**

**\*\* Your initial endpoints should be 0 and 100. Do not optimize your subsequent endpoints by making them be the halfway point plus or minus 1. Rather, just make them be the halfway point.**

### Python Trick: Printing on the same line

Try the following in your console:

```
# Notice how if we have two print statements
print("Hi")
print("there")

# The output will have each string on a separate line:
Hi
there

# Now try adding the following:
print("Hi",end='')
print("there")
print("Hi",end='*')
print("there")

# The output will place the subsequent string on the same line
# and will connect the two prints with the character given by end
Hithere
Hi*there
```

**Test Cases to Test Your Code With. Be sure to test these on your own machine - and that you get the same output! - before running your code on this webpage!**

Test case 1. Secret guess = 42

```
Please think of a number between 0 and 100!
Is your secret number 50?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. h
Is your secret number 25?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 37?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 43?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c'
```

```
indicate I guessed correctly. h
Is your secret number 40?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 41?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 42?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. c
Game over. Your secret number was: 42
```

Test case 2. Secret guess = 91

```
Please think of a number between 0 and 100!
Is your secret number 50?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 75?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 87?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 93?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. h
Is your secret number 90?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. l
Is your secret number 91?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. y
Sorry, I did not understand your input.
Is your secret number 91?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. c
Game over. Your secret number was: 91
```

**Note:** your program should use `input` to obtain the user's input! Be sure to handle the case when the user's input is not one of `h`, `l`, or `c`.

When the user enters something invalid, you should print out a message to the user explaining you did not understand their input. Then, you should re-ask the question, and prompt again for input. For example:

```
Is your secret number 91?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. y
Sorry, I did not understand your input.
Is your secret number 91?
Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. Enter 'c' to
indicate I guessed correctly. c
```

```
1 print("Please think of a number between 0 and 100!")
2 low = 0
3 high = 100
4 mid = int((low + high)/2)
5 print("Is your secret number " + str(mid) + "?")
6 guess = input("Enter 'h' to indicate the guess is too high. Enter 'l' to indicate the guess is too low. E
7
8 while guess.lower() != "c":
9     if guess.lower() == "h":
10         high = mid
11         mid = int((low + high)/2)
12         print("Is your secret number " + str(mid) + "?")
13     elif guess.lower() == "l":
14         low = mid
15
```

Press ESC then TAB or click outside of the code editor to exit

Correct

 Hide Notes

Test results

CORRECT

See full output

See full output

If you believe you have correct code but it is marked incorrect after clicking "Check"...

After you submit your code, you can see every test case the graders runs on your code. They compare what your code outputs with what our answer code is supposed to output. Click the small link titled "See Full Output" below the Test Results header.

Submit

Exercise: guess my number

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💬

Please add f string or .format() method to the grader

Please add f-string or .format() method to the grader. It is very frustrating to adjust the print statement by string concatenation a...

2

💬

input. command and spyder

Until I solved the problem of the input command in spyder, I could not understand how this command worked in "real life".... so it ...

3

💬

Did anyone else find this challenging?

It says it should take approximately 15 minutes, but it took me about 4 hours to get the answer.

5

✅

Unable to get the code running while the code is working fine in Spyder

I am getting the error There was a problem running your solution (Staff debug: L379). We couldn't run your solution (Staff debug;...

5

?

Error code I don't know what to do with.

Hi there My code works fine in spider but I get this error code here and don't know what to do. please assist. Thank you. \*\*\* ERR...

3

?

SPOILER - If the sequence of h,l,c is already predefined, wouldn't it be almost impossible to get the correct answer since python genertes random values everytime?

This is my code. If i did something wrong,,please let me know. import random import math print("Please think of a number betwe...

3

💬

Hint

The grader expects only "h" "l" or "c" as inputs (also wrong inputs), but not a number. Think of your x variable as a boolean rathe...

2

💬

\*\*SPOILER\*\* Guessed number is not being printed before asking for user input DESPITE being above the input line?

Code here: secretNumber = int(input('Please think of a number between 0 and 100!'))\_guess = 50 low = 0 high = 100 counter = 0 ...

5

💬

HELP!

This is my code, in Spyder works just fine, it took me a lot but I finally got the code do what it's meant to do, can someone tell m...

2

💬

Showing--- ERROR: Failing on first line. While the whole answer log is correct.

5

💬

My code and every line of output matches the grader but it is deemed incorrect.

Any advice? Anything common aspect that people generally miss? I can't find any difference in my output versus the grader's ou...

2

?

What does this ERROR mean?

I keep getting the following message although the code runs well in pycharm: \*\*\* ERROR: Failing on first line. Expected: Please t...

2



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