Lesson 9. Simple error messages

After reading lesson 9, you'll be able to

- Understand where error messages appear
- Develop your intuition for reading error messages

One important thing to remember as you're starting to program is that you can't write a program that will break your computer. If anything goes wrong, you can always close Spyder and restart it without affecting how anything else on your computer runs.

It's fine to make mistakes as you're writing and testing your programs. Any mistakes left in the production environment may mean that your program crashes while being used by customers, leading to poor reviews.

9.1. TYPING UP STATEMENTS AND TRYING THINGS OUT

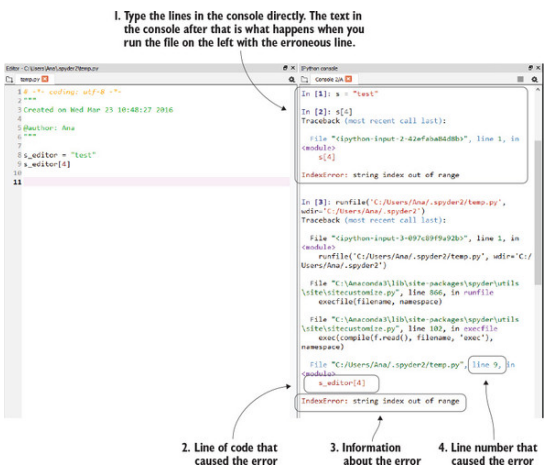
You shouldn't be afraid of trying commands in Spyder (the console or the file editor) to see what happens. This is the best way to develop your intuition for working with objects that you've seen so far. If you ever find yourself asking, "What happens if ...?", most likely you can test it out for yourself and get an answer immediately.

9.2. UNDERSTANDING STRING ERROR MESSAGES

So far, you've seen some simple operations that you can do on Python strings. I hope that you've been trying things out in Spyder. If you have, you may have tried to do something that's not allowed, in which case you got an error message.

For example, you may have asked yourself what happens when you index into a string too far, using an integer that's bigger than the length of the string. Figure 9.1 shows what happens when you try to do this in two ways: in the console or in the editor. In the console, you get the error message as soon as you hit Enter for the line that tries to index too far into the list. The error name is shown first (`IndexError`) and then a brief explanation of the error (string index out of range).

Figure 9.1. Error message when you try to index into a string using a number that's too big



In the file editor, you can write lines of code that lead to an error, but the errors don't manifest until you run the code (by clicking the green arrow in the toolbar at the top). In figure 9.1, when you execute line 9 in the editor, you're trying to index too far into the list. Because you're running a Python file, a lot more information shows up on the console, but the important part is at the end of all that text. It shows you the line that caused the error and the same error name and description as the console case.

You'll encounter many errors as you write more and more complicated pro-

SUMMARY

In this lesson, my objective was to teach you that error messages are useful and can guide you to lines that led to the error. Don't be afraid to try commands to figure out what various commands or combinations of commands do.

Let's see if you got this...

Q9.1

Type the following commands in either the console or the editor. Then see if you can understand what the error means based on the string commands in lessons 7 and 8 :

1. `"hello"[-6]`
2. `"hello".upper("h")`
3. `"hello".replace("a")`
4. `"hello".count(3)`
5. `"hello".count(h)`
6. `"hello" * "2"`

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Lesson 8. Advanced string operations

NEXT
Lesson 10. Tuple objects: sequences of any kind of object