



Introduction to debugging in Python (+ CodeFights!)

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PyLadiesBCN

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The available weapons

Why should we learn to debug?

Python debugging tools

Logging
Tracing
Debugging

PDB and IPDB

ipdb.set_trace()
autocomplete
next
repeat
quit
print
continue
list
step into
return
some advice

Sources and references

Let's practice!



Fortunately, you will not have to face that problem barehanded. Python (and all languages) provides you with some useful weapons ready to use: loggers, tracers, monitoring tools, debuggers...

So please stop using print commands to try to find the errors ;)

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Blablabla

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Getting started with *ipdb.set_trace()*

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```
1 # @Input1: an integer
2 # @Input2: an integer
3 # @Input3: an integer
4 # @Output: maximum among
   @Input1, @Input2 and
   @Input3
5 import ipdb
6
7 def maxOfThree(a, b, c):
8     ipdb.set_trace()
9     if a > b:
10         if a > c:
11             return a
12         return b
13     if b > c:
14         return b
15     return c
16
17 print maxOfThree(5, 2, 7)
```

```
1 $ python max_of_three.py
2 > ../code/max_of_three.py(9)
   maxOfThree()
3     8         ipdb.set_trace()
4 ----> 9         if a > b:
5     10             if a > c:
6
7 ipdb> c
8 2
9 lpmayos-macbookair:code lpmayos$
```

Take the advantages offered by ipdb with **TAB** (autocomplete)

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Blablabla

Execute the next statement with *n* (next)

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Blablabla

Repeat the last debugging command with ***ENTER***

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Help! How do I quit? with *q* (quit)

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Blablabla

Print the value of a variable with *p* (print)

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Blablabla

Turning off the (Pdb) prompt with **c** (continue)

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See where you are with / (list)

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Step into subroutines with **s** (step into)

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Blablabla

Continue to the end of the current subroutine with *r* (return)

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Blablabla

...just be a little careful!

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- Official documentation:
<https://docs.python.org/2/library/pdb.html>
- Debugging in Python, 2009 post by Steve Ferg:
<https://pythonconquerstheuniverse.wordpress.com/2009/09/10/debugging-in-python/>
- Python debugging tools, 2013 post by ionel's codelog:
<http://blog.ionelmc.ro/2013/06/05/python-debugging-tools/>

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1 First solve the **exercises** I prepared for this session (based on some CodeFights problems)

- Please download them from https://github.com/pyladies-bcn/debugging_in_python

2 Then let's play **CodeFights**

- If you fail a problem, try to copy the code in a file and use **ipdb** to solve it!
- or we can play a **Tournament** instead!

Thank you :) Now you try!!

