
Debugging In Python

Jessica Mong

Outline

- Introduction
 - Devil's Guide to Debugging
 - Debugging tools
 - `pdb`
 - Exercises and prizes
 - Q&A
-

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Introduction

- whoami
 - Did you know?
 - 50% - 75% of the time producing software is spent on debugging and testing
-

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The Devil's Guide to Debugging

The DON'Ts

- Scatter output statements everywhere
 - Debug the program into existence
 - Never back up earlier versions
 - Don't understand what the program does
 - Use the most obvious fix
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Debugging Tools

pdb :: python debugger

pdb++ :: pdb + new features

:: tab completion, syntax highlighting, sticky mode

ipdb :: pdb + Ipython capabilities

puddb :: “full-screen, console based visual debugger”

PyCharm IDE

Python Breakpoints (Sublime Plugin)

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Debugging Tools - <http://svy.mk/1PU361w>

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pdb

```
import pdb; pdb.set_trace()
```

```
7 import pdb; pdb.set_trace();
```

```
python -m pdb script.py
```

```
(debug)jmong@jmong-mac debugging (master) $ python -m pdb demo.py
```

pdb

l - **list**

n - next (step over)

p - print

pp - pretty print

c - continue

s - step (in)

b - breakpoints

cl - clear (breakpoints)

unt - until

q - quit

pdb

l	-	list	s	-	step (in)
n	-	next (step over)	b	-	breakpoints
p	-	print	cl	-	clear (breakpoints)
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pdb

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n	- next (step over)	b	- breakpoints
p	- print	cl	- clear (breakpoints)
pp	- pretty print	unt	- until
c	- continue	q	- quit

pdb

l	-	list	s	-	step (in)
n	-	next (step over)	r	-	return
p	-	print	b	-	breakpoints
pp	-	pretty print	cl	-	clear (breakpoints)
c	-	continue	unt	-	until

pdb

l - list

n - next (step over)

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c - continue

s - step (in)

b - breakpoints

cl - clear (breakpoints)

unt - until

q - quit

pdb

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b - breakpoints

cl - **clear** (breakpoints)

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Resources

pdb Documentation

- Python Documentation
- <https://docs.python.org/2/library/pdb.html>

Software Debugging

- Adreas Zeller & Gundega Dekena
- <https://www.udacity.com/course/software-debugging--cs259>

So You Think You can PDB

- Clayton Parker
 - <https://www.youtube.com/watch?v=j4Z8drp9jaA>
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