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# Debugging In Python

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Jessica Mong

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# Outline

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- Introduction
  - Devil's Guide to Debugging (Debugging Software Udacity)
  - Debugging tools
  - pdb
  - Exercises and prizes
  - Q&A
-

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# Introduction

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- 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

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- 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

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**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

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```
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
```

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# pdb

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l - list

n - next (step over)

p - print

pp - pretty print

c - continue

r - return

s - step (in)

b - breakpoints

cl - clear (breakpoints)

unt - until

q - quit

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# Resources + References

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## *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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# Resources + References

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## *Debugging Exercises*

- University of Sydney - Debugging Exercises
  - [http://sydney.edu.au/engineering/it/~jchan3/soft1001/jme/debugging/debugging\\_task.html](http://sydney.edu.au/engineering/it/~jchan3/soft1001/jme/debugging/debugging_task.html)
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