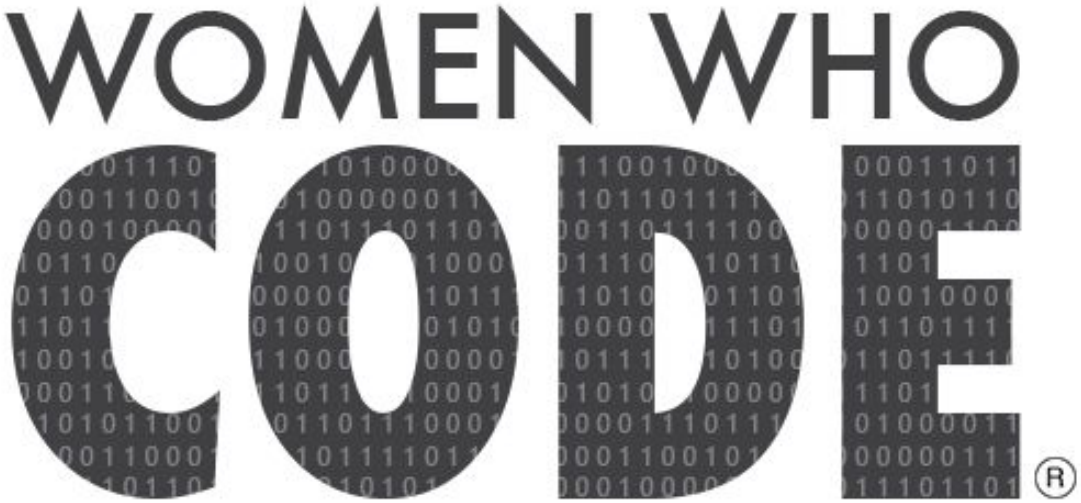

Python 2 is dead, Long live to Python 3

What you need to know

by Mia von Steinkirch

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OUR MISSION

Inspiring women to excel in technology careers.

WOMEN WHO CODE

OUR VISION

A world where women are representative as technical executives, founders, VCs, board members and software engineers.

WOMEN WHO CODE

WWCode is an inclusive community, dedicated to providing an empowering experience for everyone who participates in or supports our community, regardless of gender, gender identity and expression, sexual orientation, ability, physical appearance, body size, race, ethnicity, age, religion, socioeconomic status, caste, creed, political affiliation, or preferred programming language(s).

Our events are intended to inspire women to excel in technology careers, and anyone who is there for this purpose is welcome. We do not tolerate harassment of members in any form. Our Code of Conduct applies to all WWCode events and online communities.

Read the full version and access our incident report form at womenwhocode.com/codeofconduct

THE GIST

Python 2.0	Python 3.0
First released in 2000.	Released in 2008.
Its latest version, 2.7, was released in 2010, and its support ended last January.	Its newest version, 3.6, was released in 2016, and version 3.7 is currently in development.
Many libraries are not forward compatible.	Many developers have been creating libraries strictly for Python 3.
`5/2 = 2` (it rounds calculation down to the nearest whole number)	`5/2 = 2.5` (returns the expected result)
`print "hello"`	`print("hello")`
`"%s" % (str)` `str.format()`	`f"{srt}"` `f"{str.lower()}"`

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And a few more other things...

UNICODE STRINGS

Python 2.x	Python 3.x
Strings are stored as ASCII by default (add **'u'** to store strings as Unicodes)	Strings are Unicode by default.
`str()` and **`unicode()`**, no byte type	**`byte()`** and **`bytearray()`**

`print(type('default string'))`
`print(type(u'unicode string'))`
	`print(type('default string'))`
	`print(type(u'default string'))`
	`print(type(b'string with b'))`

`<type 'str'>`
`<type 'unicode'>`
	`<class 'str'>`
	`<class 'str'>`
	`<class 'bytes'>`

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ERROR HANDLING

Python 2.x	Python 3.x
Can simply list errors and exceptions.	The keyword **as** is required.

`try:`
`    trying_to_check_error`
`except NameError, err:`
`    print err, 'Error Caused'`
	`try:`
	`    trying_to_check_error`
	`except NameError as err:`
	`    print (err, 'Error Caused')`

`raise IOError, "file error"`	`raise IOError("file error")`

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PARSING USER INPUTS

Python 2.x	Python 3.x
Dangerous behavior: **`input()`** read in other types than strings.	**`input()`** function was fixed so that it always stores the user inputs as str objects.

`input = input('enter a number: ')`
`print type(input)`
 	
`<type 'int'>`
 	
`input2 = raw_input('enter a number: ')`
`print type(my_input)`
 	
`<type 'str'>`
	`input = input('enter a number: ')`
	`print(type(my_input))`
	
	`<class 'str'>`

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RANGE

Python 2.x	Python 3.x
`xrange()` and **`range()`** are available.	Only **`range()`** is available.
`xrange()` reconstructs the sequence every time.	**`range()`** returns iterable objects instead of lists.

`print range(3)`
`print type(range(3))`
	`print(range(3))`
	`print(type(range(3)))`
	`print(list(range(3)))`

`[0, 1, 2]`
`<type 'list'>`
	`range(0, 3)`
	`<class 'range'>`
	`[0, 1, 2]`

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TAKEAWAYS

- Python 2 is no longer supported by the community.
  - Python 3 is here to stay!

- There are tools to help the migration, they read Python 2.x source code and apply a series of fixers to transform it into valid Python 3.x code.
  - Check 2to3, python-modernize, and python-future.

- Quality assurance tools are your friends:
  - tests and good test coverage, linters, continuous integration...

- Learn more:
  - Python Official Docs: What's new for 3.0.
  - Python Official Docs: Porting from Python 2.x.
  - Python 3 from 2, by Asmeurer.
  - The Official Porting Guide.

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Thank you!

Connect with me:

github.com/bt3gl
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