Python 2.x vs 3.x

| **Basis of comparison** | **Python 3** | **Python 2** |
| --- | --- | --- |
| Release Date | 2008 | 2000 |
| Function print | print "hello" | print("hello") |
| Division of Integers | Whenever two integers are divided, you get a float value | When two integers are divided, you always provide integer value. |
| Unicode | In Python 3, default storing of strings is Unicode. | To store Unicode string value, you require to define them with "u". |
| Syntax | The syntax is simpler and easily understandable. | The syntax of Python 2 was comparatively difficult to understand. |
| Rules of ordering Comparisons | In this version, Rules of ordering comparisons have been simplified. | Rules of ordering comparison are very complex. |
| Iteration | The new Range() function introduced to perform iterations. | In Python 2, the xrange() is used for iterations. |
| Exceptions | It should be enclosed in parenthesis. | It should be enclosed in notations. |
| Leak of variables | The value of variables never changes. | The value of the global variable will change while using it inside for-loop. |
| Backward compatibility | Not difficult to port python 2 to python 3 but it is never reliable. | Python version 3 is not backwardly compatible with Python 2. |
| Library | Many recent developers are creating libraries which you can only use with Python 3. | Many older libraries created for Python 2 is not forward-compatible. |

Python Tools

1. BeeWare
2. BOA Constructor
3. PyDev for Eclipse
4. PyCharm
5. wxGlade

Python Tools for Machine Learning

1. TensorFlow
2. Numpy
3. Keras
4. Theano
5. Spyder

Python Tools for Web Development

1. Django
2. CherryPy
3. Pyramid
4. TurboGears
5. Web2Py

Python Tools for Game Development

1. Pygame
2. Pykyra
3. Pyglet