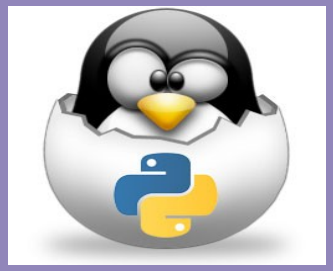
Learning to Program With Python – Part 3



Computer Graphics Using Python's Turtle Module

Based on the book:

Snake Wrangling for Kids, Learning to Program with Python

by Jason R. Briggs

(Version 0.7.7-python2.7, modified by SJL)

Presented by

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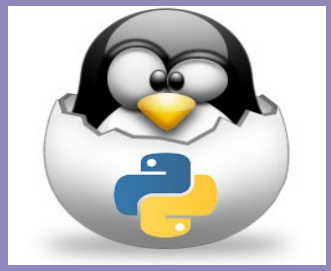
(we are also open source Gentoo Linux / Yocto developers)

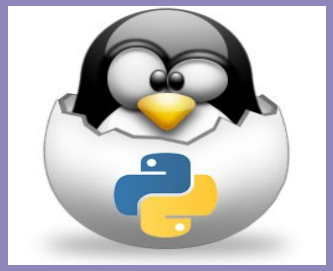
Of Pythons and Turtles



In the deep, dark, and distant past, there was a simple programming language called Logo. Logo was used to control a robot turtle (called Irving). Over time, the turtle evolved from a robot that could move around the floor, to a small arrow moving around a screen.

Python's turtle module (one of the "batteries" included with Python) is a little bit like the Logo programming language, but while Logo was (is) fairly limited, Python has many more capabilities. The turtle module itself, is a useful way to learn how computers draw pictures on your computer screen.

Drawing With a Turtle



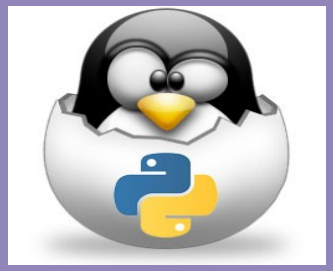
Open a Python shell and follow along:

```
>>> import turtle
>>> t = turtle.Pen()
```

“You can send instructions to the turtle, by using functions on the object that was created (by calling turtle.Pen)—since we assigned that object to the variable t, we use t to send the instructions.”

```
>>> t.forward(50)
>>> t.left(90)
```

More Drawing



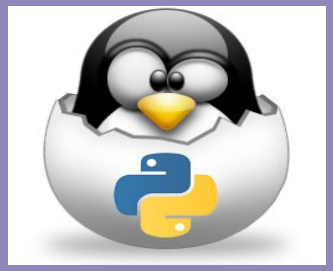
Continue Drawing:

```
>>> t.forward(50)
>>> t.left(90)
>>> t.forward(50)
>>> t.left(90)
>>> t.forward(50)
>>> t.left(90)
```

Our turtle has drawn a square and is left facing the same direction as she started. We can erase what's on the canvas by using clear:

```
>>> t.clear()
```

Hands-On

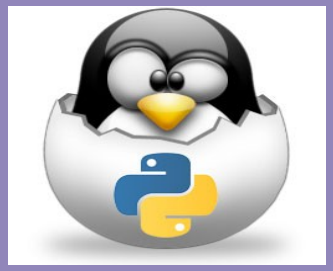


Task 1:

Create a canvas using turtle’s Pen function, and draw a rectangle.

Task 2:

Create another canvas using turtles Pen function, and draw a triangle.



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