St. Francis - Intro to Python

# What to bring

* iPad with Pythonista
* Curiosity

# Manuals and Books

Turtle online manual: [[Web link](https://docs.python.org/3.2/library/turtle.html)]

Reference book: Python for Kids [[Amazon link](http://www.amazon.com/Python-Kids-Playful-Introduction-Programming/dp/1593274076/ref=sr_1_1?s=books&ie=UTF8&qid=1421616929&sr=1-1&keywords=python+for+kids&pebp=1421616931570&peasin=1593274076)]

# Before we meet

* Installing Pythonista
  + Kids help each other installing python on their laptops

# Meeting 1 - Let’s get started with Turtle

* Meet the turtle
  + Start the turtle
  + Basic moves: forward, backwards, turn
  + Pen up and pen down
* Play with the turtle
  + Draw a rectangle
  + Draw a little stick man
  + Draw a house

# Meeting 2 - Let’s write a program

* Warm-up: draw a hexagon, draw an octagon
* Discover new commands for the turtle: move, line thickness, pen up, pen down,...
* Learn to use the editor and save a script
* Write a script that can draw a house or a face using the turtle - share it in Dropbox

# Meeting 3 - Variables (also learning position and scale)

* Warm-up: write a script that can draw four squares in a regular configuration
* what is a variable?
* play with defining variables, setting their value (numerical, string…)
* use variables to draw rectangles or circles in arbitrary positions on the screen
* use variables to draw figures of arbitrary size and position

# Meeting 4 - Functions

* Warm-up exercise: draw a train, made with five rectangles near each other
* What are the parameters that define a rectangle?
* Functions. Example of a function that adds numbers.
* Create a function that draws a rectangle in an assigned position
* Improve the function to obtain a rectangle at given position, size and orientation

# Meeting 5 - For loops

* Warm-up: write a script that can draw a closed polygon with many sides
* What is a for loop
* Write a script that can draw a circle using a for loop
* Now try to produce a spiral
* Now fill the sky with stars