# Is Python for Grade School?

By Anay Pant

About Me

- **5th Grader at Chadbourne Elem. Fremont, CA 94539**
- **Hobbies: Basketball, video games, reading, and coding.**
- **Coded in Python, Javascript, and some C.**
  - **Tic Tac toe in python(help from internet)**
  - **In C, wrote a program with dad. Calculates all prime numbers until a certain digit.(Helped with math homework!)**
  - **In Javascript, made a choice game. (YES or NO Game)**
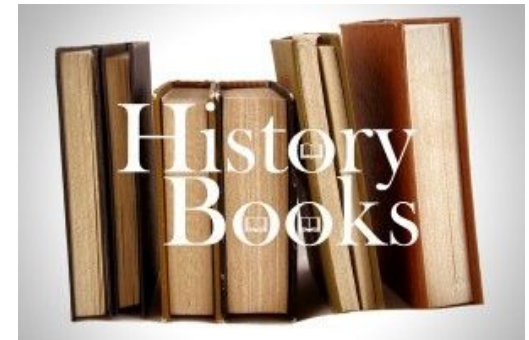
Should kids code in grade school ?

Yes! Kids have potential & Python makes it easy

Present

Today in grade school we. learn scratch and word processing tools for many years.

We can learn something new.

Why Python?

➔ **Easy to understand**
   It feels Like English. Easy to do math. Commands are not confusing

➔ **Simple and accessible editors**
   I had great fun with Jupyter notebook - running the code was very simple, i could save it and go back easily.

➔ **Mom loves it !**
   She started Pykids and teaches kids like me.

My lesson plan

(With a little help from Pykids notebooks :)

Lesson 1- Introduction and numbers

- Video by Khan Academy called "What is Programming?".
- Is a computer is like an obedient pet? - it will do Started with print command.
- We use numbers by simply inserting the numbers and operations like usual.
- When I used the Python notebook, I found out it behaves like a calculator too : 343 * 16 is 5488.
- I did try to understand what "infinity" would be like - I ran the command and the server hung up :)

These were the first steps in order to understand and code in Python.
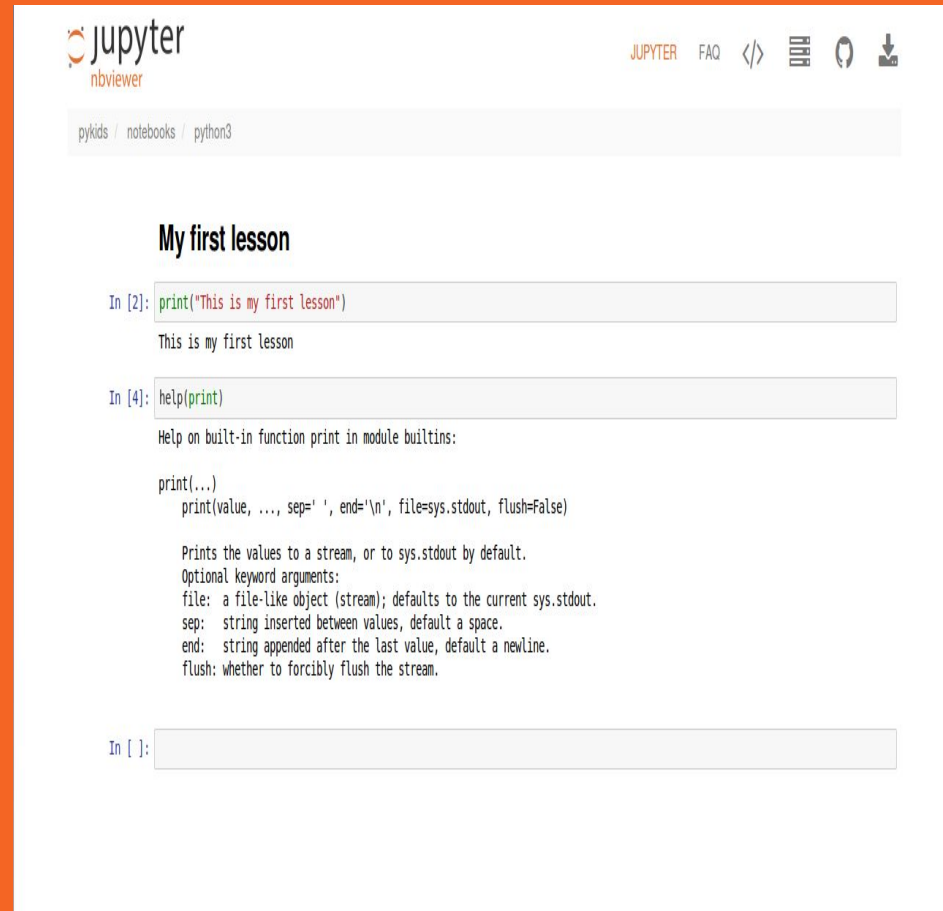
What the jupyter notebook viewer looks like

Lesson 2 - What's in a Name

- In the next lesson I learnt that not only can I manipulate numbers but also strings.
- One can add and multiply words.
- Not sure where I can use it yet - might be useful to make a Happy Halloween banner for school carnival.
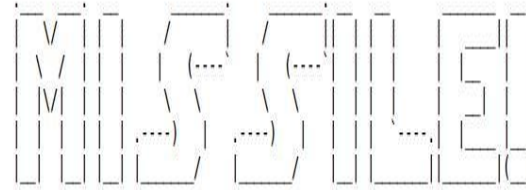
"Happy Halloween" x 200

Lesson 3- Fun with Art!

- This was one FUN lesson
- For this lesson, we used a program called a Pyfiglet. Pyfiglet is a full port of FIGlet (http://www.figlet.org/) .
- We learnt how to use "help"
- In the picture on the right, we typed the word MISSILE using a Star Wars font.

Lesson 4 - Colorful Grids

- In this final lesson, we learned about grids and ipythonblocks.
- Well, why grids? Grids are made up of vertical columns and horizontal rows. This means that they can be used for charting out important information.
- Also, grids are used to develop websites and designs. This make them a multi-purpose tool when coding.
- When we start coding, we use a method called BlockGrid. BlockGrid is a tool that takes the size and color of the grid. It contains parameters that can be filled according to the coders satisfaction. If you want a 10 * 10 grid, the BlockGrid will help with that.
- I want to make a chess board with grids.
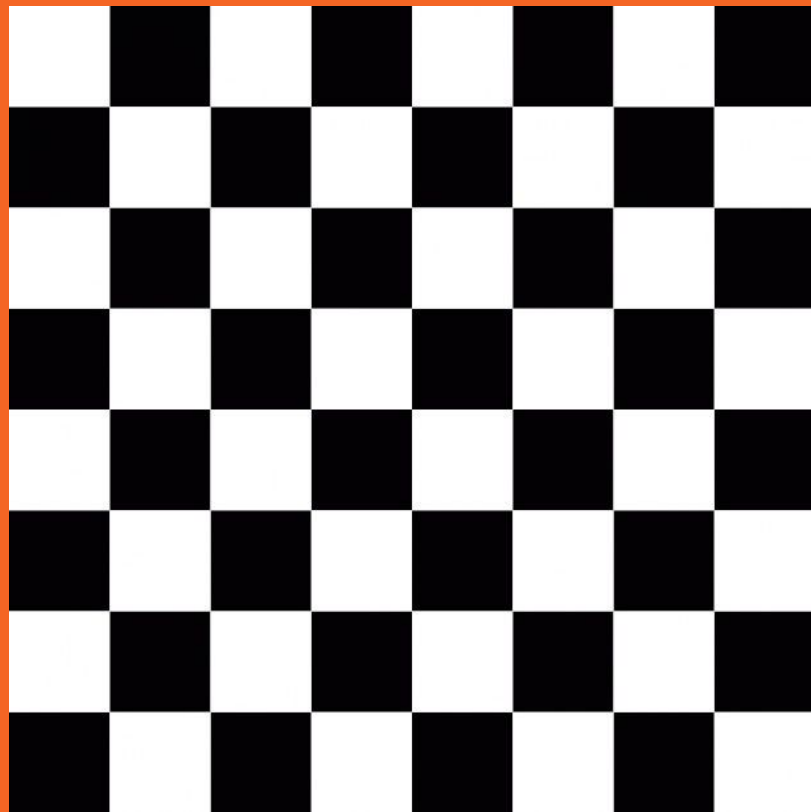
Tic Tac Toe

- With a little help from the internet, I created a simple Tic Tac Toe game in which the player plays against the computer.
- In this, we use math concepts and grids to build the board.
- The process took me 3 days.
- Loops,algorithms mostly used for this.

Our Pykids Plan.
Next steps ...

More concepts in Python ...

Create and share notebooks - contribute to Pykids

Teaching Assistant to fellow grade schoolers

Quotes for illustration purposes only

Thanks!

to the Python community, Jupyter team, Ipythonblocks for helping me and my fellow students learn Python. I also thank my mother for helping me get started with Python.

Resources: NBviewer: http://nbviewer.jupyter.org/github/mpant/pykids/blob/master/noteboo
Presentation: Google Docs
Help: Internet & Mom

Thank you for listening to my presentation, and I hope you have a lovely afternoon!