Exploring Computer Science Class:

Pleasant Hill High School, 2017-18, 1st Semester

Shannon Nordquist/Mike Bova

1. Intro to the study of Computer Science:

Intro video

<https://www.youtube.com/watch?v=nKIu9yen5nc&feature=youtu.be>

Student Survey:

<https://lesd.az1.qualtrics.com/jfe/form/SV_6VkFFS1vGkfP6nj>

Get Started Programming:

<http://lightbot.com/hour-of-code.html>

2. Discussion re. jobs in the tech industry:

<https://linoit.com>  
 <https://www.bls.gov/ooh/computer-and-information-technology/home.htm>

3. Computer Hardware Discussions:

Basic Computer Components:  
 <https://www.tutorialspoint.com/computer_fundamentals/computer_cpu.htm>  
  
 General CPU functions  
 <https://turbofuture.com/computers/What-are-the-basic-functions-of-a-CPU>  
  
 Control Unit  
 <https://www.computerhope.com/jargon/c/contunit.htm>

<https://www.youtube.com/watch?v=PQaWQoWeU30>

[Hardware Worksheet](https://docs.google.com/document/d/e/2PACX-1vQfSM2neQBQMIuswFEXKgqkPx0-klLxk0UxJfJzLWv2_Ef0t3wiJO_PKMPOPI3SzR918ExryKVPNbsV/pub)

4. Buying a computer project:

[Computer purchasing worksheet](https://docs.google.com/document/d/e/2PACX-1vQBjmxoBF2evo8wlf2y3172noiZ-EFZxk2hMvXy76uMUY_7JM-zt8GnkoMQbJUbQ-Fd5ut0uF73KfdF/pub)

5. Internet Discussion:

[Search engine scavenger hunt](https://docs.google.com/document/d/e/2PACX-1vRWV4me-ldlp_6fmXWOpT3IhY3zUp0cNIOoWc7iIclzXEaCx9m5hNcGZ7EZzmOmR5GLTPBrnUy6TUZg/pub)

6. Binary discussion:

Binary explained

<https://www.youtube.com/watch?v=b7pOcU1xMks>

Binary Games

<https://studio.code.org/projects/applab/iukLbcDnzqgoxuu810unLw>

<http://games.penjee.com/binary-numbers-game/>

<https://scratch.mit.edu/projects/130522666/>

7. Ascii discussion:

Explanation and charts

<https://www.computerhope.com/jargon/a/ascii.htm>

[Binary and Ascii Worksheet](https://docs.google.com/document/d/e/2PACX-1vSq1V8tbm-WyGlQE5l9eneokCI86RqWcNoFZ_3sfJBcVUsY5yDykXmT2kOSFOINqiiVErIB-NM-ZAqh/pub)

8. Introduction to Python—students worked through this online book tutorial w/ instructor:

<http://interactivepython.org/runestone/static/thinkcspy/index.html>

Code was often written, tested and run using Thonny:

<http://thonny.org/>

Helpful videos:

<https://www.youtube.com/watch?v=l9v1ewQXv5M&t=323s>  
 <https://www.youtube.com/watch?v=Oj8RIEQH7zA>

9. Python “turtle stuff”:

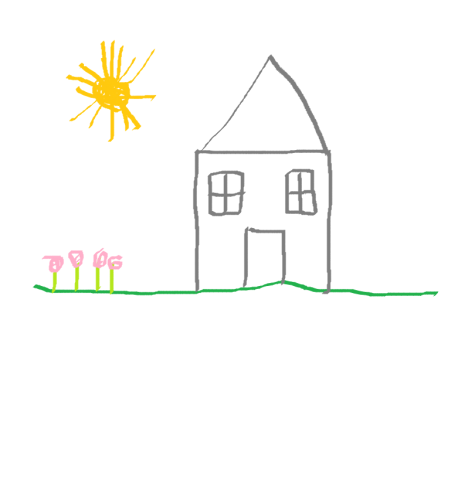
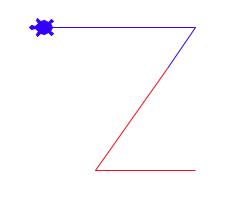
<https://docs.python.org/3.0/library/turtle.html>  
 <http://www.instructables.com/id/Easy-Designs-Turtle-Graphics-Python/>

[Example code to draw with turtle](https://docs.google.com/document/d/e/2PACX-1vQ14t4nVg6U2pusXhacR7gLyCc3JtqjXILAL7JhAQ8ZvYs3_qHndv93EhzmBQKesclZJ77aiGFAcc-S/pub)

10. Python Kahoot:

<https://play.kahoot.it/#/k/0004e812-c8f1-4423-8866-61b99684d5c2>

11. Python turtle images challenges:



12. Code combat w/ Python:

<https://codecombat.com/students?_cc=PaintRestPage>

13. Python turtles exercises:

http://interactivepython.org/runestone/static/thinkcspy/PythonTurtle/Exercises.html

14. [Python Functions Quiz](https://docs.google.com/document/d/e/2PACX-1vQYu6u0cqvMNvRNhmdnqVCqH1oetPthu-8lv6SIireYmTJ_zWrK-f-04Gfute4B6fg4e3-K7FXrJWaR/pub)

15. [Python string exercises](https://docs.google.com/document/d/e/2PACX-1vQbqN65KKBYotphtCR9hC3YlRLNioLDyUADHH_EbuzKkz3O7TkkPThWvjNfO3owl4o3WVtde0ZJklK5/pub) (Not from the book, and we did not do all of these)

16. \*\*[Hour of code week](https://hourofcode.com/us)

[Javascript app lab](https://code.org/educate/applab)

17. Intro to Ubuntu and Linux command line:

<https://fossbytes.com/a-z-list-linux-command-line-reference/>  
 (linux)  
 [http://blog.sudobits.com/2012/07/20/top-17-terminal-commands-every-ubuntu-user-should- know-about/](http://blog.sudobits.com/2012/07/20/top-17-terminal-commands-every-ubuntu-user-should-%20%20%09%09know-about/)   
 (ubuntu specific)

18. Django (python framework for creating web apps) project using “Django Girls Tutorial”:

<https://tutorial.djangogirls.org/en/django_start_project/>

18a. Installing Atom (text editor) on Ubuntu:

<https://codeforgeek.com/2014/09/install-atom-editor-ubuntu-14-04/>

18b. Git and Github:

<https://github.com/>

18c. PythonAnywhere:

<https://www.pythonanywhere.com/>