



Introduction to Programming & Python

There are many different languages we use for speaking (English, Spanish, French, etc.). Though all languages are very different, many share the same building blocks (nouns, verbs, adjectives) and follow similar rules. In the same way, there are many languages for programming. You may have heard of some of them: Java, C++, Python, and HTML (just to name a few!). Though there are differences in these languages, they all share similar structures and rules.

In order to construct our “robots”, we are going to need to learn a bit of programming. We are first going to learn the basic rules of programming using Python, one of the most popular computer languages today. Compared to many of its predecessors, it’s easy to learn, use, and read.

If at any point you feel stuck or overwhelmed, first see the resources posted on the Programming Page of the class website. Then try Googling your question. If neither of those two methods helped you resolve your issue, then email me or see me after school.

It’s time to get excited – you’re becoming a PROGRAMMER!

OBJECTIVES: By the end of this unit, you should be able to...

- Create comments to help readers understand your code
- Perform simple arithmetic calculations
- Work with variables (store information, perform calculations, print values)
- Collect and work with information from a user using the keyboard
- Use if/else structures to make decisions
- Perform repeated operations using for and while loops
- Create and use your own functions

TEXT: Learn Python The Hard Way, Release 2.0

- Access the text online: <http://learnpythonthehardway.org/book/>

IN-CLASS STRUCTURE

- Homework to be completed before each lesson
- Five minute open-notes pop quiz on the homework at start of class
- Programming Task to be completed by the end of each class

TEST DATES

- Test #1: 1/19 (Programming TOD 1)
- Test #2: 2/23 (Programming TOD 2)



HOMWORK ASSIGNMENTS:

Complete the following bolded exercises before the specified dates. Be sure to take notes. There will be a short, five-minute open-notes quiz on each date listed to check that the assigned exercise(s) was completed.

- You must complete the required ones (**bolded**). Take thorough notes!
- The “RECOMMENDED” exercises will be very helpful for the programming we’ll do in class, but are not required.
- The “OPTIONAL” exercises will teach you skills that we won’t use in class, but are good skills to learn anyhow!

HW	EXERCISE	Complete it before...
	Appendix A: Command Line Crash Course (Exercises 1, 2, 3, 5, 6)	1/3 (In Class)
	0: The Setup	1/3 (In Class)
	1: A Good First Program	1/3 (In Class)
	2: Comments and Pound Characters	1/3 (In Class)
HW 1	3: Numbers and Math	1/3 (In Class)
HW 2	4: Variables and Names	1/5
HW 2	5: More Variables and Printing	1/5
	<i>6 - 10: OPTIONAL</i>	
HW 3	11: Asking Questions	1/12
HW 3	12: Prompting People	1/12
	<i>13 – 17: OPTIONAL</i>	
HW 6	18: Names, Variables, Code, Functions	2/21
HW 6	19: Functions and Variables	2/21
	<i>20: OPTIONAL</i>	
HW 6	21: Functions Can Return Something	2/21
	<i>22 – 26: OPTIONAL</i>	
HW 4	27: Memorizing Logic	2/2
	28: RECOMMENDED	2/2
HW 4	29: What If	2/2
HW 4	30: Else and If	2/2
HW 4	31: Making Decisions	2/2
HW 5	32: Loops and Lists	2/9
HW 5	33: While Loops	2/9
	<i>34: OPTIONAL</i>	
	35: RECOMMENDED	2/21
	<i>36 - 52: OPTIONAL</i>	