Welcome to Computer Science 2. In this class you will develop your programming and problem solving skills in order to become a self-guided **Python** programmer.

Programming skills you will learn (roughly in the order you will learn them) include:

* Problem Solving Flow Chart
* Step-Through Debugger
* The Difference between Pass-by-name and Pass-by-reference
* Scope and Namespace
* Objects
* Inheritance
* 2d Arrays
* Dictionaries
* Recursion and Divide-and-conquer algorithms
* Sorting algorithms
* Try-catch, assertions, and general program testing
* Data structures
* Search algorithms and Artificial Intelligence

**What will this class be like on a daily basis?**

On most days you will be free to work on whatever projects you want. You must work on computer programming during this class. All projects are worth up to a certain number of points. You must earn a certain number of points by the end of each quarter to earn an A, B, C, etc.

There will be some quizzes. There is not any official homework, but you may need to work at home to catch up if you get behind.

Lectures and quizzes will be short and will take place at the end of the period.

**Collaboration**

The internet is a wonderful resource, as are your classmates. However, you still need to do your own work without copying. Here’s how:

* Cite your sources. A web address suffices.
* Hands off each other's keyboards.
* Seeking help, is not looking up answers. Be specific, not general. For example:
  + **Use:** How do I make a sprite jump? **Instead of:** How do I program a game of Mario.
  + **Use:** How do I write code to get the remainder after division? **Instead of:** How do I write a program that prints out correct change.

**Expectations**

You are expected to:

1. Spend class time working on assigned projects
2. Help others
3. Seek answers when you get stuck (Ask a neighbor! Google it!)

You are expected NOT to:

1. Disrupt others or talk over the teacher
2. Browse websites unrelated to the class or otherwise use class time inappropriately
3. Do nothing when there is programming to be done. There is always programming to be done!

**Grading Rubric**

Your quarter grade is determined as follows:

20% - Quizzes

80% - Points

Points are earned by completing projects and lessons. Earning 1000 points by the end of each quarter is equivalent to earning 100%. Corrections can be made to projects in order to earn back any lost credit.

Your grade (and points) are reset at the end of each quarter.

Your semester grade is the average of the two quarters.

There are no final exams in this class.

**Online Resources**

If you would like to read more about a topic or review something covered in class, I recommend:

<https://python.swaroopch.com/>

For a smaller quicker reminder of syntax visit:

<https://www.w3schools.com/python/>