Welcome to CSCI 004 (late start).

This is an introductory to the subject of Computer Science in the form of a programming class. We will work through the basic structure and theory of modern programming concepts. Including (but not limited too) variables, langauge unique constructs, Types, and the mindset with which one should approach these concepts.

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Office Hours: T/TH 1pm - 2pm

physical class: MC 146

Course outline:

Lectures (12 weeks)

Programming design tools
- what is Programming
  - enviornments
- pseudoCode

Introduction to Python
- Variables
  - RAM, the heap. explain why types and variables are designed the way they are for machines / then maybe in language.

Data Types
- primitive types are: Numbers, Characters, Boolean, Array, Tuples
  - Numbers can be expanded
- Most primitive of which is an array type

Coding conventions
- conventions include: style guide
- code comments: inline / block
- external docs like a wiki, or manual paper

Control flow
- if then else
- simple iterative loops

Procedural vs OOP
- Procedural: systems of purely sequential instructions
- OOP: systems designed around objects, large structures describing traits rather than behavior

File IO
- **instream** / **outstream**, using **fstream** package
- sequential access

Passing parameters by value & by reference
- memory explanation of copy or reference value

Error handling

Principles of testing & designing test data

- unit tests
- integration tests
- divide and conquer strategies

Last lecture

- Design principles

Class work

Late Policy

I do not except late work

Homework

We will have homework every week worth varying points.

Grades

Homework: %60 Exams: %40

Note we may have quizes these will never been graded for points. Note++ there will be extra credit avaliable, we will talk about it on day one.