# Software - Python

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**SUMMARY DESCRIPTION**

Learn to make a simple PONG game in Python using Pygame.

## Introduction

Python is an interpreted language that runs on most computers. It is faster to write programs in Python than C++ and has many modules available that extend the language.

## Language Basics

Comments. Indenting.

Assigning variables

Branching/control structures

Loops

Grouping code (functions and objects)

### Exercise 1: Hello World

Open a text editor. Write a program to loop through and print all letters in the students name.

## Graphics

Pygame draw capability

### Exercise 2: Draw Circle that moves

## User Interaction

Get user generated events.

### Exercise 3: Draw rectangle that moves

Based on mouse position, move a rectangle vertically.

## Game Logic

Rules for the game play

### Exercise 4: Collision detection

Detect if circle “ball” has contacted the top, left, bottom edges of the screen. If so, reverse direction.

Detect if circle has contacted rectangle paddle. If yes, reverse direction.

If circle has contacted right side of screen with no paddle rectangle, then make circle disappear and reappear on the left side of screen.