

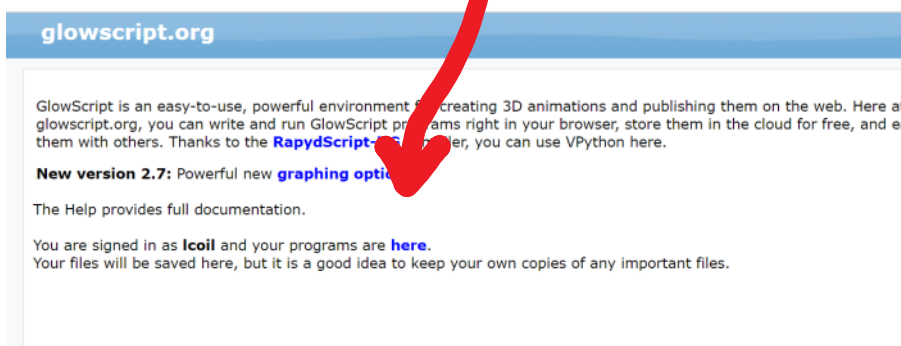
# PS Comp 1 Introduction to vPython

These activities are designed to introduce you to vPython, a modeling tool that we will use to analyze many of the physical situations in this course. If you have no experience with coding in Python the activities labelled "an easy walk" are for you. If you have experience and want a challenge rather than another introduction try "uphill climb" activities. Both sets of activities will get you to the same goal of using vPython in this course. **Everyone should do each of the TASKs for this assignment, the challenge task at the end is for those who have more experience with Python.**

## Part A. Getting vPython on your computer

**TASK:** We will be using a web-based interface for vPython called GlowScript ([www.glowscript.org](http://www.glowscript.org)).

1. Open the website [www.glowscript.org](http://www.glowscript.org) and select "sign in" in the top right corner. You will need to create an account with your Hawken email address. It is free.
2. Click on "Your programs are here"



3. Create a new program by clicking "Create New Program." Name the program "FirstinitialLastinitial Comp 1" so for example, Ms Coil-Sherck's program would be titled "LC Comp 1"

## Part B. Introduction to Variables in vPython (Easy Walk)

Watch [vPython for Beginners 2 - Variables](#) (4:47)

**TASK:** Using what you learned in the tutorial, write a program that will solve the problem below. Be sure to practice defining variables!

What is the acceleration of a 2.5-kg mass that is experiencing 10.6 Newtons of force? Recall that Newton's 2nd law is  $acceleration = \frac{Force}{mass}$

Once you are successful in using vPython to generate an answer, screenshot (or click screenshot) the program and answer window and paste the image in the grey space below.

## Part C. Making Shapes (Easy Walk)

Watch [vPython for Beginners 3 - Making Shapes](#) (9:50)

**TASK:** Make a red sphere with radius 1.5 and a blue box with dimensions (L: 1.2 W: 0.5 D 1:). Ensure that the objects do not touch each other! Paste a screenshot of your shapes in the grey space below.

**Challenge Task** (*Uphill Climb*): Make the image shown below. Note the shape shown in red is called arrow. Screenclip your code and the result into the grey box below.

