APPENDIX

Visual Python Quick Reference

Note: This is only a list of the functions used in the code you will be writing. For more information on visual python, visit <http://vpython.org/contents/docs/>

Note: x func(y a, z b) denotes a function named func that takes parameters a & b of type y & z respectively and returns type x

Note: In python, like in many programming languages, numbers take on different “types.” For instance, an integer is a whole number (i.e. 1, 2, 3, etc.) whereas a float is a decimal number (i.e., 1.1, 0.5, 3.642, etc.). Unlike some programming languages, where you have to specify your number type, Python is good at recognizing the type and assigning it automatically. However, because different actions are taken according to number type, it is important to put numbers in the right format so that Python recognizes them as a specific type. The number type is specified in the documentation below.

Note: x.c denotes a characteristic of the objects of the class with type x and name c

Class 3Dobject

* Object sphere((float x, float y, float z) pos, float radius)
* Vector.pos #position represented by a vector(float x, float y, float z)
* Float.radius #radius represented by a float
* Float.mass #mass represented by a float
* Color.color #color represented by a color.color (eg color.red)
* Vector.velocity #velocity represented by a vector(float x, float y, float z)
* Vector.accel #acceleration represented by a vector(float x, float y, float z)
* Float.b #drag represented by a float
* Vector.F\_g #force of gravity represented by a vector(float x, float y, float z)
* Vector.F\_drag #force of drag represented by a vector(float x, float y, float z)
* Vector.F\_net #net force represented by a vector(float x, float y, float z)

Class Vector

* Vector vector(float x, float y, float z)
* Float.x #x position represented by a float
* Float.y #y position represented by a float
* Float.z #z position represented by a float