Numeric Operators

+, -, /, *: Addition, subtraction, division, multiplication

//: Floor division: Round division result down to nearest whole number
%
: Modulus: Evaluate to remainder of division

• Range

range(stop): Equivalent to range(0, stop, 1)
range(start, stop[, step]): Create sequence of integers from inclusive start to exclusive stop by step

Strings

• The following functions are built-in

dlen(string): Returns the number of characters in the string
int(string), float(string): Converts numeric string to int or float
str(object): Converts object, e.g. int or float, to a string

• String operators

string1 + string2: Returns a new string that is the concatenation of string1 and string2
string * int: Returns a new string that is string repeated int times

Modules

• turtle module

forward(dist), backward(dist): Move the turtle forward/backward by the length dist. Doesn’t change heading.
right(angle) left(angle): Turn the turtle right/left by angle (in degrees)
goto(x, y): Move turtle to position x, y
setheading(angle): Set the turtles heading to angle
circle(radius): Draw a circle with specified radius; the center is radius units left of the turtle
dot(size): Draw a filled circle with diameter size centered on current position of the turtle
penup(): Pull the pen up – no drawing when moving
pendown(): Put the pen down – drawing when moving
fillcolor(color): Change the fill color to color, where color is a string
begin_fill(), end_fill(): Start and end filling shapes with fill color

• random module

randint(a, b): Return a random integer N such that a ≤ N ≤ b
uniform(a, b): Return a random floating point number N such that a ≤ N ≤ b

• math module

sqrt(num): Return the square root of num