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

  `len(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`