Turtle Graphics

The `turtle` module implements a simple drawing tool based on the LOGO programming language, which was invented in the 1960's as a teaching tool for children. A “turtle” is like a pen that can be controlled to move on a two-dimensional “screen” (window). Positions on a screen are indicated using Cartesian coordinates with the origin (0, 0) indicating the center and distances measured in pixels. Like a pen, the turtle is either up or down. When down, it draws as it moves; when up, it does not draw anything. Some common commands:

- **`turtle.up()`**/**`turtle.down()`**: set the state to be up (not drawing)/down (drawing).
- **`turtle.setheading(angle)`**: set the direction the turtle is facing to `angle` degrees (e.g., 0 for east, 90 for north, etc.).
- **`turtle.showturtle()`**/**`turtle.hideturtle()`**: show/do not show the turtle (a cursor).
- **`turtle.pensize(width)`**: set the line thickness to `width` (a positive `int`).
- **`turtle.color(s)`**/**`turtle(r,g,b)`**: Set the color for drawing. The argument is a Tcl color string (`'red'`, `'green'`, `'blue'`, etc.)/the arguments are three floating point numbers between 0.0 and 1.0 indicating the amounts of red, green, and blue, respectively. The default pen color is `'black'`.
- **`turtle.forward(distance)`**/**`turtle.backward(distance)`**: move the turtle `distance` pixels forward (in the direction it is facing)/backward (in the opposite direction).
- **`turtle.left(angle)`**/**`turtle.right(angle)`**: turn turtle right/left by `angle` degrees.
- **`turtle.goto(x,y)`**: move along a straight line to the coordinates `(x,y)`.
- **`turtle.circle(radius)`**: draw a circle of the indicated radius, counter-clockwise and tangent to the direction the turtle is facing.
- **`turtle.clear()`**: clear the screen.
- **`turtle.beginfill()`, `turtle.endfill()`**: To fill a shape, use `turtle.beginfill()` just before drawing the shape, draw the shape, and use `turtle.endfill()` right after drawing the shape. The shape drawn between the two fill commands will be filled with the present color.
- **`turtle.bye()`**: close the drawing screen window.