1 Clarification about assignment 2

Assignment 2 gives you the chance to program a simple, nice game. While the functionality of the game is apparent from the description already provided, it may be the case that some of you need additional details. This file provides these details.

The program will be run from the command line (see Figure 1). The user will provide some input in the terminal (e.g. w+⟨*Enter*⟩). As a result, the blue turtle (Alex) will move accordingly (so, in the case the user entered w, Alex will move forward for 30 pixels). If the user introduces a string `my_string` other than w, a, s, d, you need to print the message `'my_string is not recognized as a movement. Retype'` and prompt the user to give another input. The game finishes when Alex gets within a distance 30 from Alice. When this happens, your program will no longer accept inputs from the user and you don't need to print any messages (Figure 1 depicts the moment the game ends).

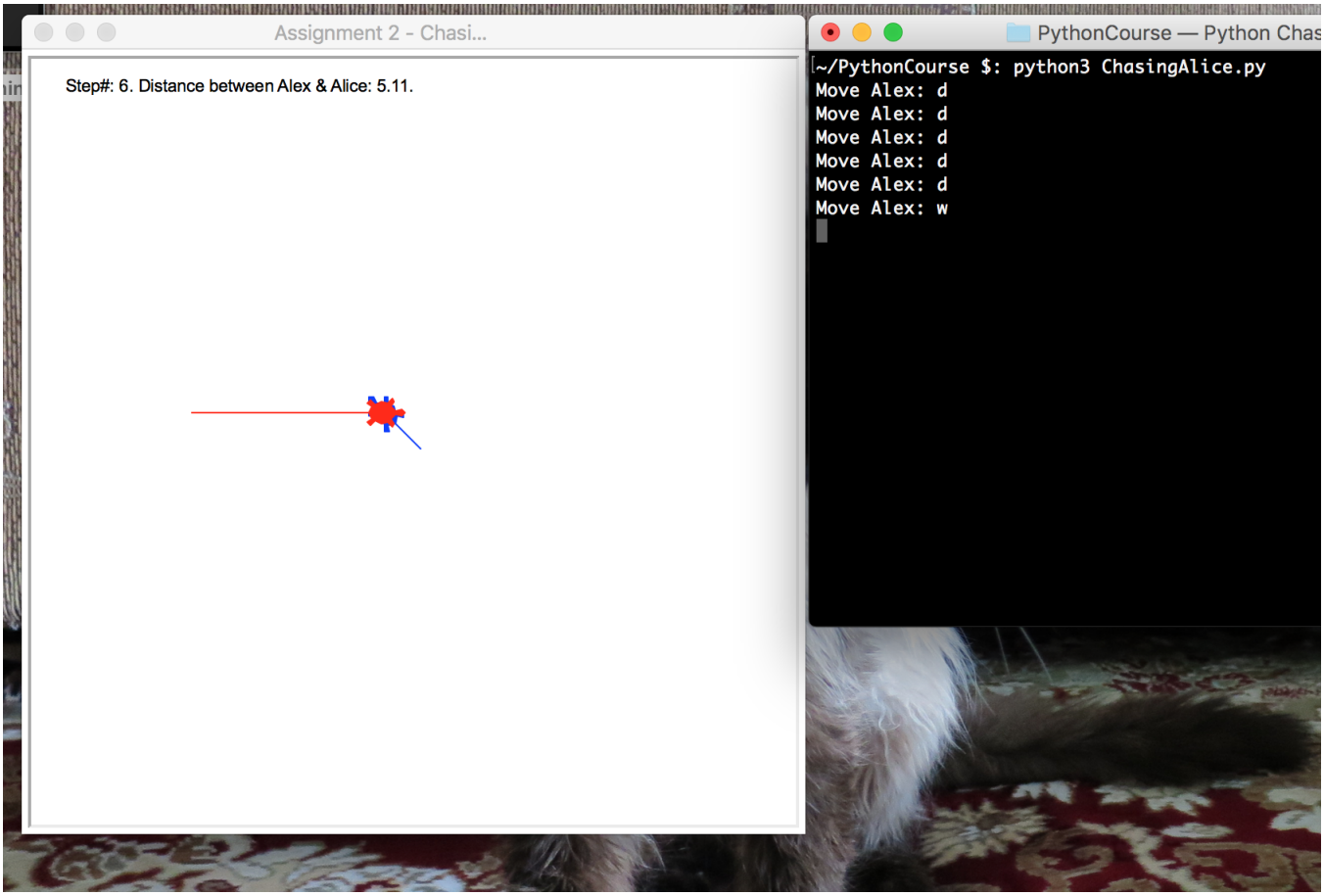

Figure 1: The two windows of the game.

Alice, the computer-controlled turtle, moves as follows: with probability 1/6 she changes direction left, with probability 1/6 she changes direction to the right, and with probability 2/3 she moves forward. To generate random numbers, you can use the function `randinit()` from the module `random`. See `https://docs.python.org/3.1/library/random.html#random.randint`. For example, to print a random integer between 0 and 9 (inclusive), you can

use the statement `print(random.randint(0,9))`. Each of the integers $0, 1, \ldots 9$ has the probability 1/10 of being chosen. Please note that random does not mean arbitrary.

To compute the distance between two turtles, you can use the method `distance()` of a turtle object. See `https://docs.python.org/2/library/turtle.html#turtle.distance` and the examples there.

The assignment will be weighted the same as assignment 1. So, the total you obtain for assignment 2 (out of 20) will be halved when computing your final grade for all assignments in the course. In line with assignment 1, to get a grade above 6/20, your program must run without run-time errors. The late-day penalties are the same: (0..24] hours late: -5 points, (24..48] hours late: -10, $>$ 48 hours late: -20 points.

A word about constants: in other programming languages it is possible to define constants (that cannot be changed at no point in a program). Python does not allow for this possibility. What the assignment meant with "use constants instead of magic numbers" was that you should use meaningful names for your variables. Eg., many functions in this program will need the height of the window. Instead of hard-coding this value (500), declare in the `main()` function a variable `windowHeight = 500` and pass the variable `windowHeight` as a parameter to the functions.