CS167 - Intro Programming

Albert Schueller
Spring 2016, 10TThF, Olin 165

Homework 05: Herd of Turtles (due Feb 23, 2016)

1. The Random Walk of a Herd of Turtles. A random walk is a path that is generated by a sequence of randomized decisions. In this exercise, we will create a "herd" of turtles and let each follow a random walk. The resulting animation should be, at the very least, interesting.

   Write a program that does the following:

   - Asks the user for a positive integer, `n`, and creates a list of `n` turtles of different colors. (Tip: keep this number below 20 or so, larger numbers take a long time to run.)
   - In an indefinite while loop, send the "herd" on a random walk using the functions from the `random` module.
   - Each turtle should leave a colored path behind itself to show its past.
   - Read the turtle documentation and figure out how to make the window exactly 800×800.
   - At the start, the turtles should be randomly positioned all over the screen.
   - At the start, the turtles should be randomly oriented in all directions.

   Be sure to include an Above & Beyond element with a comment at the top of your program. If necessary, submit your Above & Beyond in a separate program, clearly identified.

Homework 05 Pairings:

```
['Ashley, George', 'Warren, Tyler']
['Blausapp, Yarden', 'Anderson, Alec']
['Chun, Catie', 'Bruns, Adam']
['Eastland-Fruit, Ridley', 'Clark, Zachary']
['Fernandez Orozco, Pablo', 'Klein, Emily']
['Hayes, Nelson', 'Coutret, Eloise']
['Hochfeld, Nick', 'Mueller, Spencer']
['Jarriel, Kaylin', 'Over, Clayton']
['Novak, Hannah', 'Donner, Eliza']
['Obey, Kevin', 'Robinson, Nick']
['Valence, Jini', 'Salkind, Quinn', 'Stanley, Jenna']
['Walker, Stanley', 'Mullins, Will']
['Wang, Jingyuan', 'Brothers, Robby']
```