Computer Science 220
Fall 2012
Program 9

Due: November 21, 2012 at 5 pm

Learning objectives:

- Practice indefinite loops.
- Develop a program that uses buttons within loops.

Assignment:
Jack loves to do jumping jacks. Create a simulation of Jack consisting of a stick figure and three buttons: `start`, `stop`, and `quit`. If the user clicks the `start` button, Jack begins jumping; if the user clicks the `stop` button, Jack stops jumping; if the user clicks the `quit` button, the program terminates (including closing the window). If the user clicks on the screen anywhere outside of a button, no action occurs. Supply instructions to the user when the simulation starts.

Notes:
`win.getMouse()` forces the program to stop running while it waits on the user's click. In interactive programs, sometimes you want the program to continuously check for the user's click without stopping the program's execution. The method `win.checkMouse()` works just like `getMouse()` but does not cause the program to pause and wait for a click. If the user has clicked, `checkMouse()` returns a point where the click was made. If the user has not clicked since the last check, `checkMouse()` returns `None`. (`None` is a predefined value in Python.)

If your loop to make Jack jump executes too quickly, use the `sleep()` from the `time` class.

You are required to write the code for one function, described below. You may use additional functions as you wish.

`wasClicked(pt, rect)` → `Boolean`: This function accepts a Point object where the user clicked and a Rectangle object that is the bounding box for a button. This function should return `True` if the click occurred within the bounds of the rectangle and `False` otherwise.

Submission:
Upload `jumpingJack.py` to your class account.

Policies:
The policies given in Program 1 are in effect for this and all assignments. Do not forget to include your name and the Certification of Authenticity.