

Moving a Graphic With the Move Function

This program moves a graphic in a window using the tkinter **move** function. This is more efficient than what we did in the tkinter Introduction Assignment where we moved an object by erasing and drawing it in a new position. It also uses the PhotoImage function to import a GIF graphic into the program.

Code:

```
from tkinter import *      # Imports the tkinter library
import time                # We must import the time library so we can use a delay later in the program

root = Tk ()              # Creates a tkinter object

# Creates a canvas object to draw the moving graphic. The background colour is set to white
myCanvas = Canvas (root, width =1000, height = 200, background = 'white')
myCanvas.pack()

xPositionTop = 50         # Variable that stores the current x position of the graphic's top left corner

moveAmt = 10              # How many pixels the graphic will move

drawSens = PhotoImage (file = "Sens.gif")      # Creates a graphic object

movingGraphic = myCanvas.create_image (xPositionTop, 50, image=drawSens) # Creates a sprite ( a moving
                                                                    # graphic)

while True:

    xPositionTop += moveAmt    # Keeps track of the position of the graphic. Needed to exit the loop

    myCanvas.move (movingGraphic, moveAmt, 0) # Moves graphic using .move() function

    if xPositionTop >800 :      # Exits the program when the graphic has an x-position of >800
        break

    myCanvas.update() # Refreshes the canvas window each time the rectangle makes one movement.
                    # This line is needed in any program with moving graphics because it redraws
                    # the window.

    time.sleep (0.1)          # Calls the "sleep" function from the library "time".
                            # This function halts the program for the given amount of time so the graphic
                            # does not move too fast (in this case, 1/10th a second). In programming, this is
                            # called a delay

root.mainloop()             # Event listener is not actually required in this program because there is no user input.
                            # It is included because most tkinter programs require it
```