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The file Gravishift.py contains the main body of the program, mainly dealing with animating the ball and mouse and key events. The most important programs are:

init:

resets some data values and calls GSlevel.doLevel to make the canvas level

keypressed:

takes a key and does that key’s action

mousePressed:

checks if you pressed a button, or if you selected a tile

mouseMoved:

if you’ve selected a tile, this tries to move it with your mouse. Note, it only checks for collisions between the tile and obstacles if the tile is already in play.

mouseReleased:

if you released a tile in a legal spot, it adds it to play. If you dropped it in an illegal spot it returns it to the sidebar

timerFired:

runs if the game is started; gets the forces on the ball and moves the ball

checks if they’ve just won, and says so if they did

moveBall:

finds the endpoint of this update, moves the ball there, and checks if it’s rolling (there’s additional friction if it is)

postCollisionPosition:

finds the endpoint of the update using the ball’s vx and vy components, then finds the first collision point along the line of motion, reflects the ball’s velocity vector around the angle of collision then recursively calls itself to see if there are any more collisions during that update. This one was very hard to write…