Projectile Motion

A Computer Program By Logan Hankin

Goal: Make a program that simulates projectile motion

Projectile motion is the physics of flying/thrown/launched objects. It is governed by a series of equations.

Guide to symbols:
θ: initial angle
u: initial/v: current velocity
t: current/T: total time
R: range

Equations I used:
$u_x = u \cdot \cos \theta$
$u_y = u \cdot \sin \theta$
$v_y = u \cdot \sin \theta - g \cdot t$

If you want the code itself go to my GitHub page.

How it works: A timer repeatedly increases *t*, which is then calculated with the values entered by the user to find a position, where a dot is drawn, that eventually forms a parabola.

Other projectile motion equations that I didn't use:
Range and Final Time: I can just use the spot where y hits zero in my program.
Displacement and Max Height: Not necessary and would clutter/ slow down my program.
Parabolic trajectory: My method works better for C#, which can't draw parabolas. Also, my method allows to see the actual motion.

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Problems that happened: The preview drew form the wrong corner (fixed), the timer didn't stop at the right time (not fixed).