Two fundamental aspects of the process of learning physics are visualization and mathematical manipulation. To instill these skills in the students, the teacher can resort to computer help. Maple is a programming language (Heal et. al., 1996, Kofler 1997) most well suited to create worksheets that analyze physical problems from the mathematical (symbolical) as well as graphical (Ecker, 1996) point of view. In particular, exploiting Maple’s powerful capabilities, procedures can be written to produce animated displays of the behaviour of a particular physical system.

The two worksheets presented in this demonstration aim at studying projectile and oscillatory motions respectively. They include animations of a particle following different trajectories and of a mass-spring system undergoing different types of oscillatory motion according to the given initial conditions. Those interested on creating visual displays of other phenomena, with Maple, may use the animation procedures of this demonstration as templates.

References: