

# “Quickphysics” , Proposed on 2012 – 10 - 30

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## Problem Definition

- Statement: Because some general physics homework problems follow simple tedious patterns, an attempt to save students from repetitive pencilworks needed to be made. Quickphysics recognizes those patterns and simplify them.
- Scope: Eliminating repetitive math in physics
- Resources
  - Eclipse
  - Java Developers Kit
  - Physics FOR SCIENTISTS AND ENGINEERS 8<sup>TH</sup> ed. Serway

## Research/Analysis

- Determine problems best suited for Quickphysics and will be in most exams.
- Allowing users to search and browse through available problems.
- How to make it Windows-compatible
- Further application on combining basic problems together to create/solve more complicated problems

## Proposed Solution

- Quickphysics categorizes general motion physics problems from Newtonian Laws to angular momentum, and make available for users to choose from.
- It is programmed to ask for the metric values of all involved variables pertaining to the situation, and determine the unknowns of the problems.
- Each categorized problems contain codes with defensive programming and appropriate mathematical equations that determine the unknown and return the correct value of the unknown variable.

## Potential Applications

- Quickphysics can assist in mechanical problems that require repetition of small steps.
- Quickphysics can be a very effective academic tool for students new to physics if designed to show problems being solved stepwise.

