

Assignment 1

Due: Friday, Sep. 10, 2004.

Remarks: Submit the assignment using the "Hand In" program on my website.

The period p of a pendulum is given by

$$p = 2\pi\sqrt{L/g}\left(1 + \frac{1}{4}\sin^2(\theta/2)\right),$$

where $g = 980$ cm/sec², L is the length of the pendulum (in centimeters), and θ is the angle of displacement (in degrees).

Write a C++ program to read in L and θ and to print p . Note that the argument of the sine function in C++ is in radians. Thus, you need to change θ to radians. You do that by multiplying the value of θ entered by the user by $3.14/180$ (here I'm approximating π by 3.14).