

Homework 1 program outline

-2) include libraries that will be used

- iostream
- string
- cmath

-1) Create void function (to be used in all hw) that prints my information to console "student-information"

1) In main: call
set variable $int = -16$
ask/gather user input for

- init-height
- init-velocity

2) create function to calculate "time-taken" object to hit ground
⇒ the positive x-int value

Only calculates both roots if first root < 0 ; because in this case, time can only be a positive integer

calculate first root
if $x_1 > 0 \Rightarrow$ time
Else
calculate x-int #2
if $x > 0 \Rightarrow$ time

Print ("it took" << time << "object to hit ground")

└─ makes program more time efficient by only calculating what is needed

create function to calculate
ht" by finding vertex

$$1) x = -\frac{b}{2a}$$

$$2) y = f(x) = f\left(-\frac{b}{2a}\right)$$

x = time when max height is reach
y = max height

I) calculate x

II calculate $f(x)$ --- or max height

Print ("The projectile's max height is")
 << Max;

END Program;