Write a C++ program that simulates the motion of a ball under air resistance.

As input, the program should take,
- The initial height of the ball,
- The speed at which it is hit,
- The angle at which it is hit, and
- A step size.

As output, the program should return
- The horizontal distance that the ball has traveled when it hits the ground.

Use your program to answer the following question- At what angle should a ball be hit to travel the farthest horizontal distance?
- A well-hit ball will travel off the bat at a speed of 110 mph.
- How accurate is your answer? How do you know that it is accurate?
- A batted ball comes off the bat with speeds between 80 mph and 130 mph. Do different initial velocities change the optimal angle? Is the change significant?

You are then to write up a technical report that answers these questions. The report should describe the model, the numerical methods used to solve the problem, your program, and your results. When answering these questions, you must address the question of how the choice of step size affects the result.

The program should be written using good object oriented programming techniques.

Your grade for the project will be based on the following criteria:
- The quality of your program
- The quality of your results
- The quality of your written report