

CSI 201 — Computer Science I

Homework #03 - due February 13th, 2006

Write the following program on sampson. Hand it in by printing the source in GLDS 202 using `enscript`. To receive a grade, your program **MUST** compile and execute on sampson in the 201 directory under the filename `hw3.cpp`. Remember to always `cd 201` and save your work. Your program output should exactly match the sample execution shown below for full credit. Executing `p201` will test your program against sample executions.

In this homework, continue your work on homework two, to make a complete and working program. Write a program to compute the distance s an object moves according to acceleration a and time t input by the user. The formula to compute distance from these inputs is: $s = \frac{1}{2}at^2$. Negative acceleration is okay, but negative time does not make sense. Your program should declare the appropriate variables, prompt the user for input, check for correct values in the input, compute the calculations and then output the result. Sample program execution is attached.

Sample Executions:

```
Input floating point acceleration in ft/(s*s): 3.5
Input floating point time in s: 3.5
The distance is 21.4375 feet.
```

```
Input floating point acceleration in ft/(s*s): -1
Input floating point time in s: -1
ERROR time is negative
```

```
Input floating point acceleration in ft/(s*s): -1
Input floating point time in s: 1
The distance is -0.5 feet.
```