Lab 01

August 31, 2016

C loops

Write a program that asks for a positive integer n and builds a *triangle* like so:

```
What is n?  4
*
**
***
****
```

What about writing a function and calling it multiple times? Can you do this with nested `for` loops?

Hypotenuse of the triangle

Given the previous problem, you can now build a right triangle. Assuming the legs of the triangle are the same, find the hypotenuse. Use this page web page to only print out **two digits** of precision (search for precision).

Factorial

Recall that the factorial of a number n, *n!* is *n * n-1 * n-2 ... * 2 * 1*. Write a program (using `long` and not `int`) that asks for a positive integer and computes its factorial. Run it on larger and larger numbers. Does it take a long time? Is there any way to speed this computation up? (Hint: try saving the result of the computations in memory)

1. http://www.cplusplus.com/reference/cstdio/printf/