

School of Computer Science, University of Windsor
60-141: Introduction to Algorithms and Programming II
Term: Summer 2014 (July-August)
Instructor: Dr. Asish Mukhopadhyay

Lab 0

Posted: date

Due: date

Preamble: The purpose of this lab is to help you refresh and recall the lessons of 60-140. This lab will not count towards your grade. Nevertheless, you are strongly encouraged to work out a solution.

Problem: Write a C-program to print a number triangle as shown in the figure below. The input to your program is the height of the triangle. The triangle of Fig. 1, for example, has a height of 4. This is also known as Pascal's triangle and the entries in the i -th row from the top for $0 \leq i < h$ are $C(i, 0), C(i, 1), \dots, C(i, i)$, where $C(n, m) = n!/(m!(n - m)!)$ is the number of ways of choosing m things out of n .

As the height of the triangle increases it is a hard problem to keep the triangle perfectly symmetric, if you are printing from top to bottom. The first 1's are along a perfect diagonal but not the last 1's. This is desirable but not required. You may try though as a challenge.

```
      1
     1 1
    1 2 1
   1 3 3 1
  1 4 6 4 1
```

Figure 1: *A number triangle of height 4*