Lab 9: IDEs

June 8, 2018

Introduction

This lab will give you some experience configuring and using IDEs. The starter code is available in a git repository (check your email for the link). You can get the git repository with `git clone URL`.

Problem $\sqrt{-1}$: Clean Up After Yourself

The repository for this lab does not include a `.gitignore` file. As you work through this lab, you could create one that ignores the junk you don't want in a git repo: compiled files, editor backup files, etc. Use `git status` to see what sorts of files your IDE creates.

Problem 1

Note: you *do* want to include the project files you create in your repository.

1. Create a Code::Blocks project for the assignment in the repository folder.
2. Import the existing files into the project.
3. Build and run the code. (Don't forget to turn on `-Wall`!)
4. Implement the `combination` function in `funcs.cpp`. The combination operator, most commonly known as part of the Binomial Theorem but also widely useful in statistics and combinatorics, is defined by the following operation:

   $$\binom{n}{m} = \frac{n!}{m!(n-m)!}$$

   The combination operator is also used to generate Pascal's Triangle, which is what we will be doing in this assignment.
5. It'd probably be good to write a bit of code in `main` to make sure your function works.
6. `git add` your Code::Blocks project files and your changes to `funcs.cpp` and `main.cpp`.
7. `git commit` your changes.

Problem 2

1. Create a Qt Creator (or KDevelop if you want) project for the part 2 of this assignment.
2. Import the existing files into the project.
3. Build and run the code.
4. By editing main.cpp, use the `TrianglePrinter` class to print out the first 7 rows of Pascal's Triangle. `add` will add a number to the current row, `newrow` will start a new row, and `print`
   Hint: use can use the combination function:
   The first row of Pascal's triangle is $\binom{0}{0}$. The second row is $\binom{1}{0}$, $\binom{1}{1}$, and so on and so forth.
   `https://en.wikipedia.org/wiki/Pascal%27s_triangle#Combinations`
5. `git add` your project files and your changes to `main.cpp`.
6. `git commit` your changes.

Epilogue

`git push` your committed changes to https://git-classes.mst.edu so that we can grade them.