Introduction
Lecture 1

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Mon, Aug 27, 2018

Outline

C – The Precursor to C++

- The C language.
  - Named for the third letter of the alphabet (really).
  - Developed by Brian Kernighan and Dennis Ritchie in 1978 at Bell Labs.
  - Designed to give the programmer greater control over the computer.
  - The C syntax, although at times inscrutable, has become the standard for nearly all computer languages.

The C++ Language

- The C++ language.
    - C++ was developed by Bjarne Stroustrup in 1983 at Bell Labs.
    - C++ contains C as a sublanguage.
    - Its language structures support a more highly organized programming style than C did.
    - C++ was updated in 2011 (C++11) with new features added.
- An excellent online resource is
  `http://www.cplusplus.com/reference/`

The C++ Language

- C++ is an object-oriented language.
  - Maps concepts to data types.
- The programmer may create his own data types.
  - Build hierarchies of related data types.
  - Number $\rightarrow$ Point $\rightarrow$ Polygon $\rightarrow$ Mesh.

Outline

Microsoft's Visual Studio

- We will use the integrated development environment (IDE) Visual Studio 2017.
- Visual Studio provides
  - Editor
  - Compiler
  - Program execution
  - Debugger

Outline

Example of a C++ Program

- Example
  - `BMI.cpp`