

# The Development Process

Compilation

## Programming Process

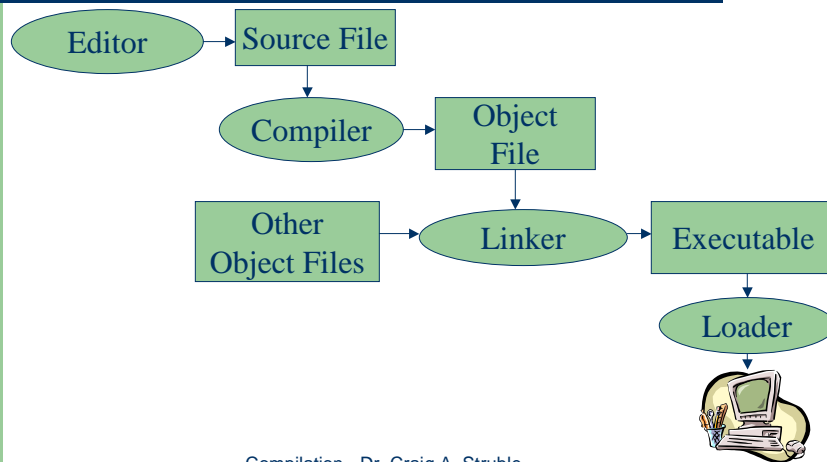
### Problem Solving Phase

We will spend significant time on this next week.

### Implementation Phase

- **Create a concrete solution**
- Test your solution
- Fix errors, add features, and test again.

## Developing Programs in High-Level Languages



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## Terminology

- **Source file**
  - Text file containing computer program
- **Compiler**
  - Program that translates high-level languages to machine language
- **Object file**
  - Machine language file generate by compiler

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## Terminology

- Standard library
  - Object file containing standard features of high-level languages
- Linker
  - Program that combines several object files and standard libraries into an executable
- Executable
  - A file containing the machine code that will run in an operating system (e.g., Windows)

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## Terminology

- Loader
  - A part of an operating system that places an executable into memory and starts its execution

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## Integrated Development Environments (IDE)

- Integrated set of development tools
  - Editor, compiler, and linker are in one inclusive environment
  - Usually tuned for a specific high-level language
  - Details of development are hidden but still occur
- Visual C++ is an IDE supporting C++

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## Visual C++ Terminology

- A *project* is a collection of source files, object files, and executables generated during development.
  - Usually stored in a single directory called the *project location*
  - Your projects in this course will contain only one source file

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## Visual C++ Project Types



### Win32 Application

- Graphical applications
- Windows, buttons, etc.



### Win32 Console Application

- DOS Command Window
- Text-only input/output

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## Visual C++ Input and Output Files

- Input files expected by your programs must be stored in the project location directory.
  - Programs fail to run if the input files are not found
  - Do NOT put input files in the *Debug* directory
- Output files are generated in the project location directory.

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