Introduction to Computer, Programming and C++

Software Life Cycle

Systems Requirements → Analysis → Design → Code → System Test → Maintenance

Classic Life Cycle Model
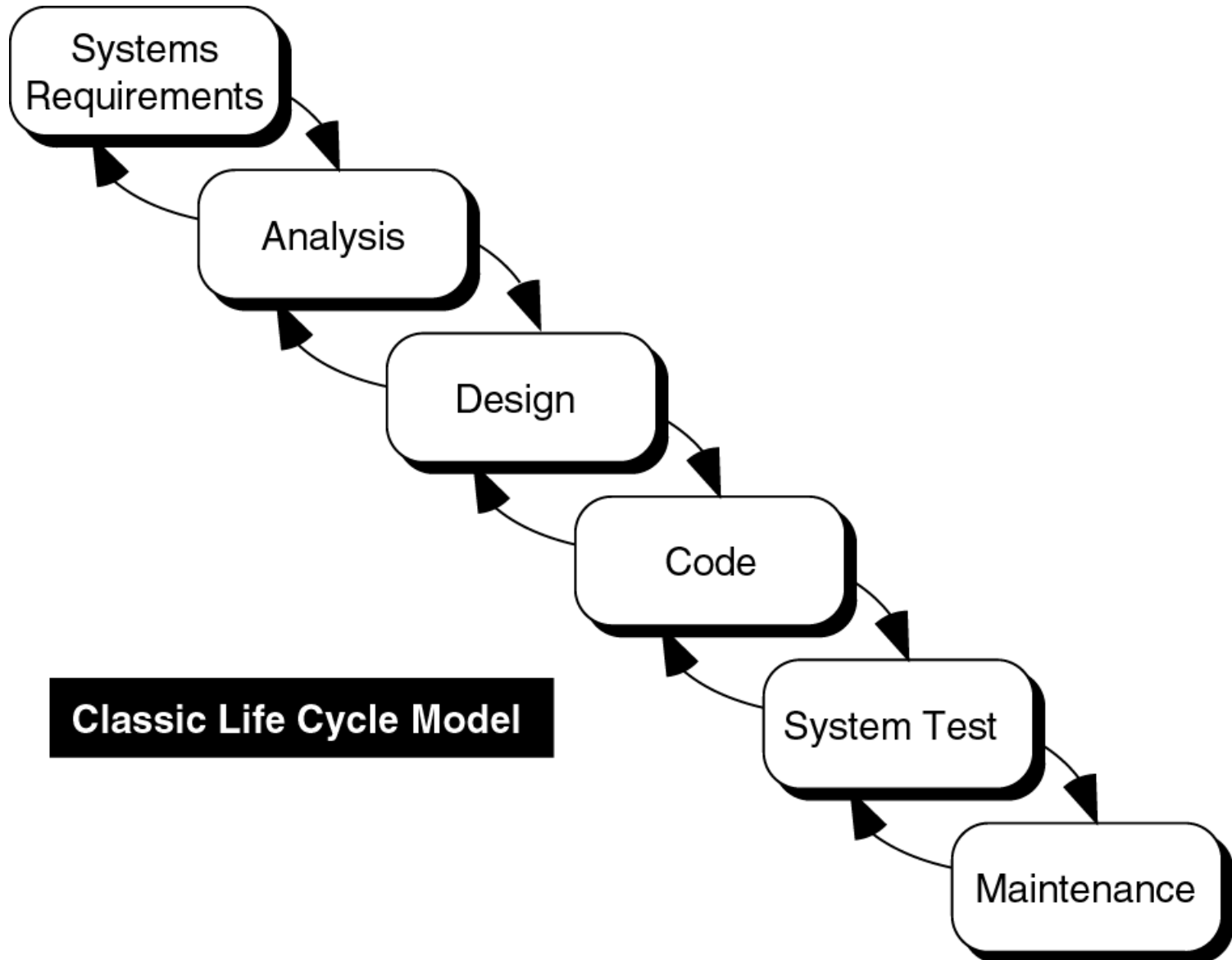
C++ Development Steps

1. Create and edit a program
2. Preprocess
   - Perform manipulation based on the given preprocessing directives
3. Compile
   - Translate C++ into machine language instructions (e.g. produce object code)
4. Link
   - Combine all object codes and libraries together to produce an executable program
5. Load
   - Take executable image and transfer it to memory
6. Execute
   - Run the program one instruction at a time

Program and Algorithm

- Algorithm
  - A sequence of steps that is unambiguous, executable, and terminating

- Pseudo code
  - Not a program, just an easy-to-understand algorithm in free format and readable by human readers

Run your fist program

1. Create the "SayHello.cpp" program as follows:

```
#include <iostream>
using namespace std ;
int  main()
{
        cout << "Welcome to my first C++ program" << endl ;
        return 0 ;
}
```

2. Compile the program and generate the executable file using command line (for Visual Studio)

```
cl.exe   SayHello.cpp
```

3. Run the program (for Windows)

```
SayHello.exe
```