CS-1002 Programming fundamentals (CySec)

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Introduction to C++

1. Strictly typed
2. Static typed
3. Compiled language
4. Faster and resource and performance efficient code.
5. Designed to develop Operating system and embedded software
6. Curly brackets { … } used for blocks
7. Every block have local scope
8. Collection of statements/Commands
9. Statement terminator “**;**”
10. Contains most of programming constructs
11. Best programming language for teaching and learning ☺

Starting C++

- **C++ statements**
  - *Statements are fragments of the C++ program that are executed in sequence*
- **Two types of statements**
  1. *Simple statements: Single line of code*
  2. *Compound Statements: Compound statements are multiple lines or curly braces-enclosed sequences of statements called blocks.*

Simple statements

1. **Declaration Statement**
2. **Assignment statement**
3. **Expression statement**
4. **Labels**

Compound statements

1. **Selection statements**
    1. If statement
    2. If-else
    3. Nested if else
    4. Switch
2. **Iteration Statements**
    1. While loop
    2. Do while loop
    3. For loop
3. **Jump statements**
    1. Break
    2. Continue
    3. Return
    4. Goto identifier

Structure of C++ Program

Writing first Program in C++

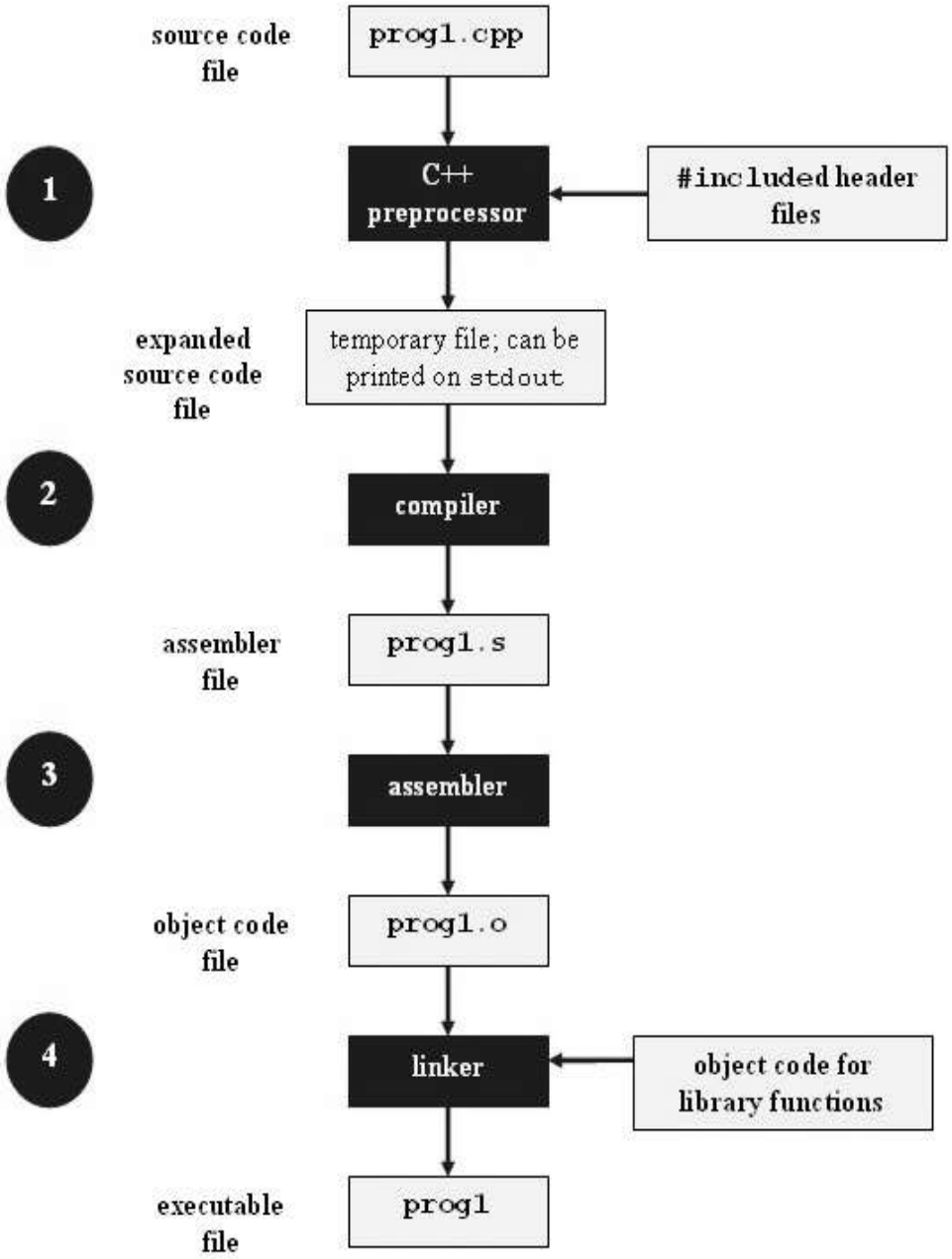
```
// This is a simple C++ program. Call this file Sample.cpp.

#include <iostream>

 using namespace std;

  int main()
{
     cout << "C++ is powerful Programming Language.“<<endl;
     cout<<“Welcome to Programming Fundamentals”;
     return 0;
}
```

How C++ program is Actually Executed


source code file
prog1.cpp
1
C++ preprocessor
#included header files
expanded source code file
temporary file; can be printed on stdout
2
compiler
assembler file
prog1.s
3
assembler
object code file
prog1.o
4
linker
object code for library functions
executable file
prog1

cout and cin

- Objects of iostream class
- Used for taking input (cin) and for output(cout)

Home work

- Read following Topics from Chapter # 2

(page 27 – 43)

  - 2.1 **The Parts of a C++ Program**
  - 2.2 **The cout Object**
  - 2.3 **The #include Directive**
  - 2.4 **Variables and Literals**
  - 2.5 **Identifiers**

- Read Topic 3.7 **Formatting Output** (page 111 onwards).

Questions (???)

Thanks ☺