Compiler Construction
CS510

Lecture 1: Introduction

- Compiler (Why?)
- Compiler's History.
- What is a compiler
- What is an Interpreter
- Hybrid Compilers
- Phases of the Compiler

Compiler (Why?)

Machine Language

The instruction to move the number 2 to the location 0000 (in hexadecimal)

C7 06 0000 0002

Compiler's History

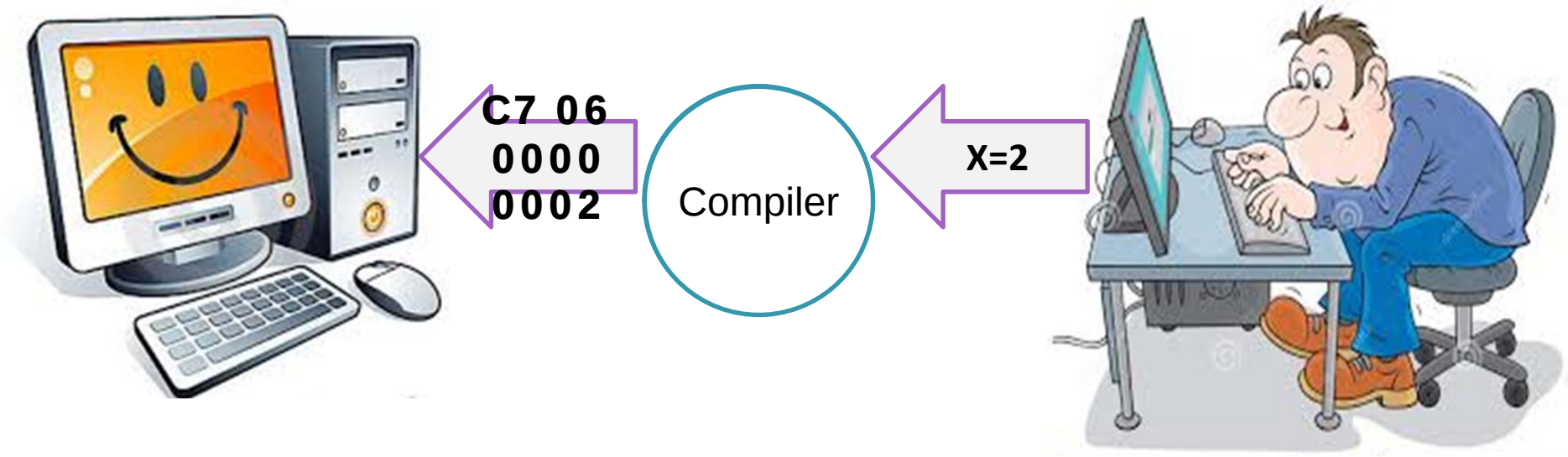
- 1954 IBM develops the 704 –Successor to the 701

* http://www.columbia.edu/cu/computinghistory/704.html

Compiler's History

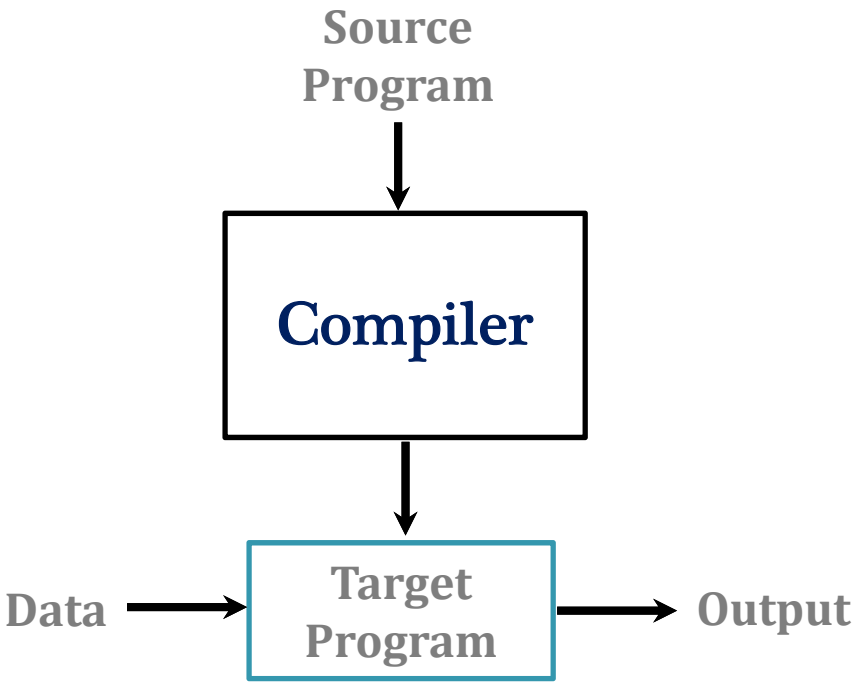
- Speed Coding
- Fortran I

http://www.columbia.edu/cu/computinghistory/backus.html


C7 06
0000
0002
Compiler
X=2

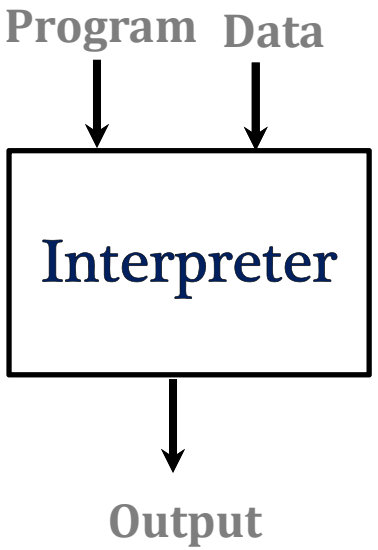
What is a compiler

- A compiler is a software translates programs in a source language into target language.
- Offline



What is a n Interpreter

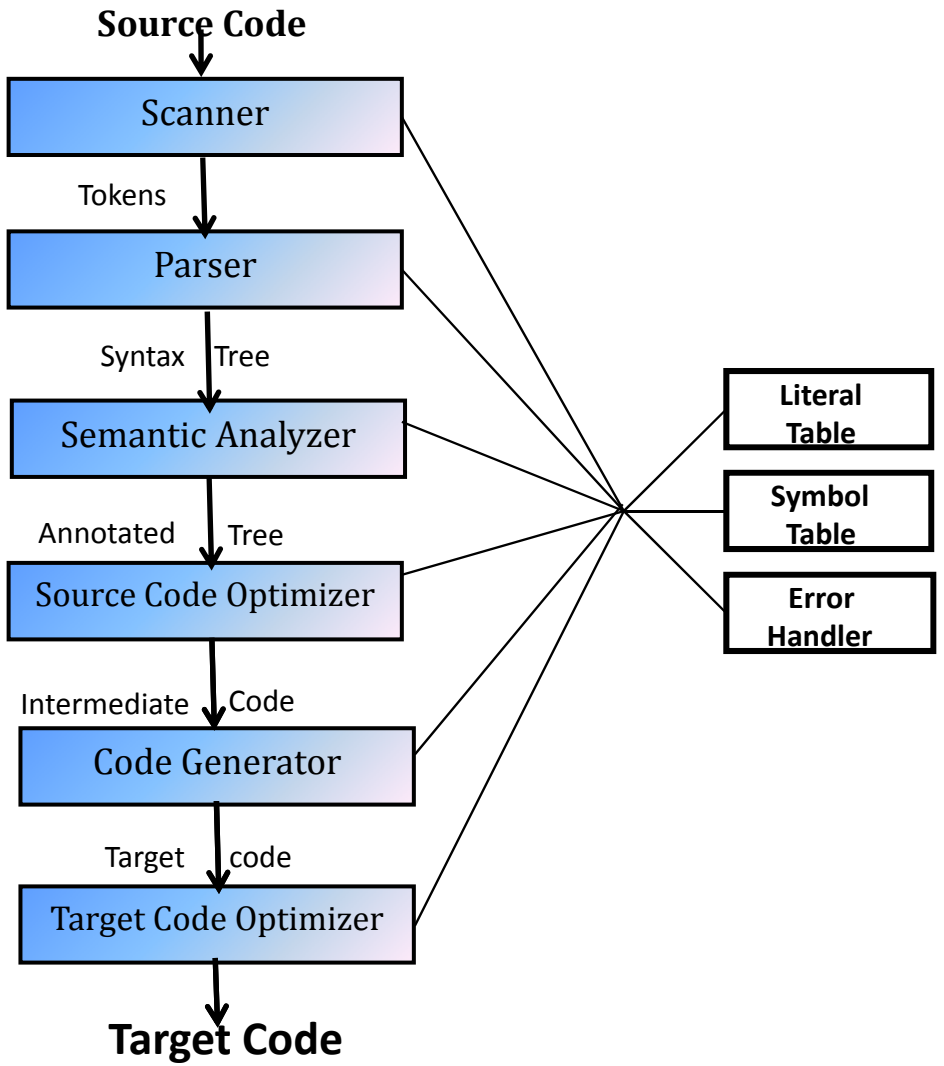
- Unlike a compiler, an interpreter does not produce a target program.
- Online



Hybrid Compilers

- Source program is compiled into an intermediate program, which is later interpreted by an interpreter.
- For example, Java programs(*.java) are compiled into byte code(*.class), which is later interpreted by the just-in-time compiler (a virtual machine).

Phases of the Compiler



*Prof. Abdel Aziz Khamis :ISSR Spring 2014