



Unit I –Part 02 (Computer Basics)



Lecture Slide

AS2023





Royal University of Bhutan



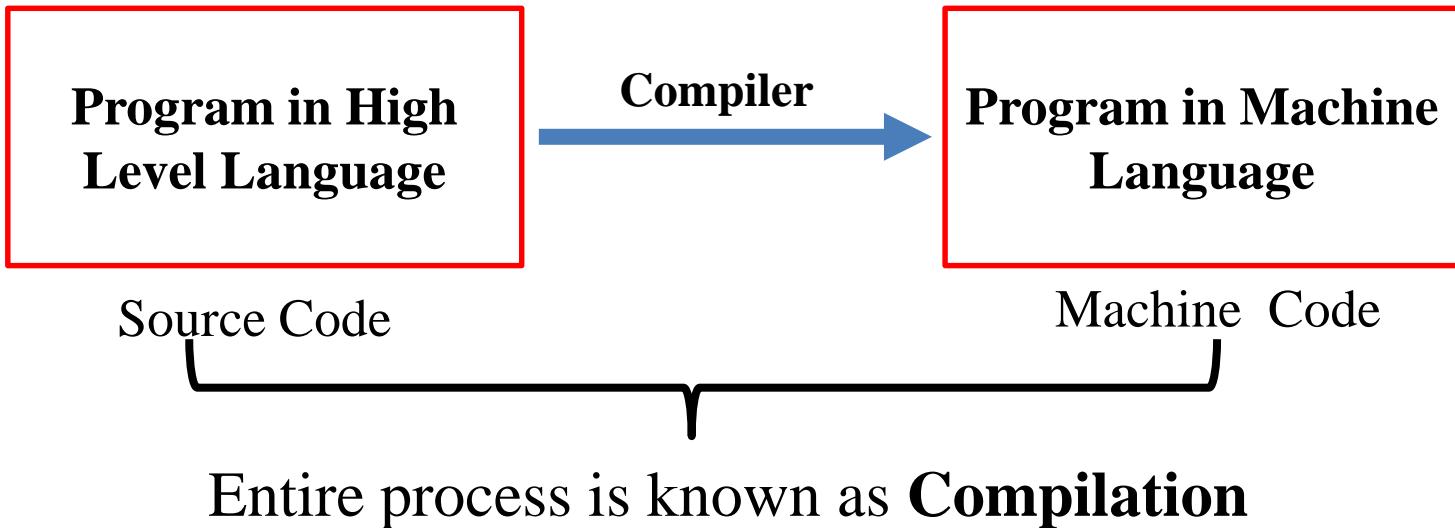
Objectives

By the end of this session, students will be able to:

- Illustrate the process of compilation
- Define linker and loader
- Explain the functions of loader
- Explain the concepts of storage unit
- Convert from one storage unit to other units
- Define operating system
- Differentiate various types of OS



Compilation





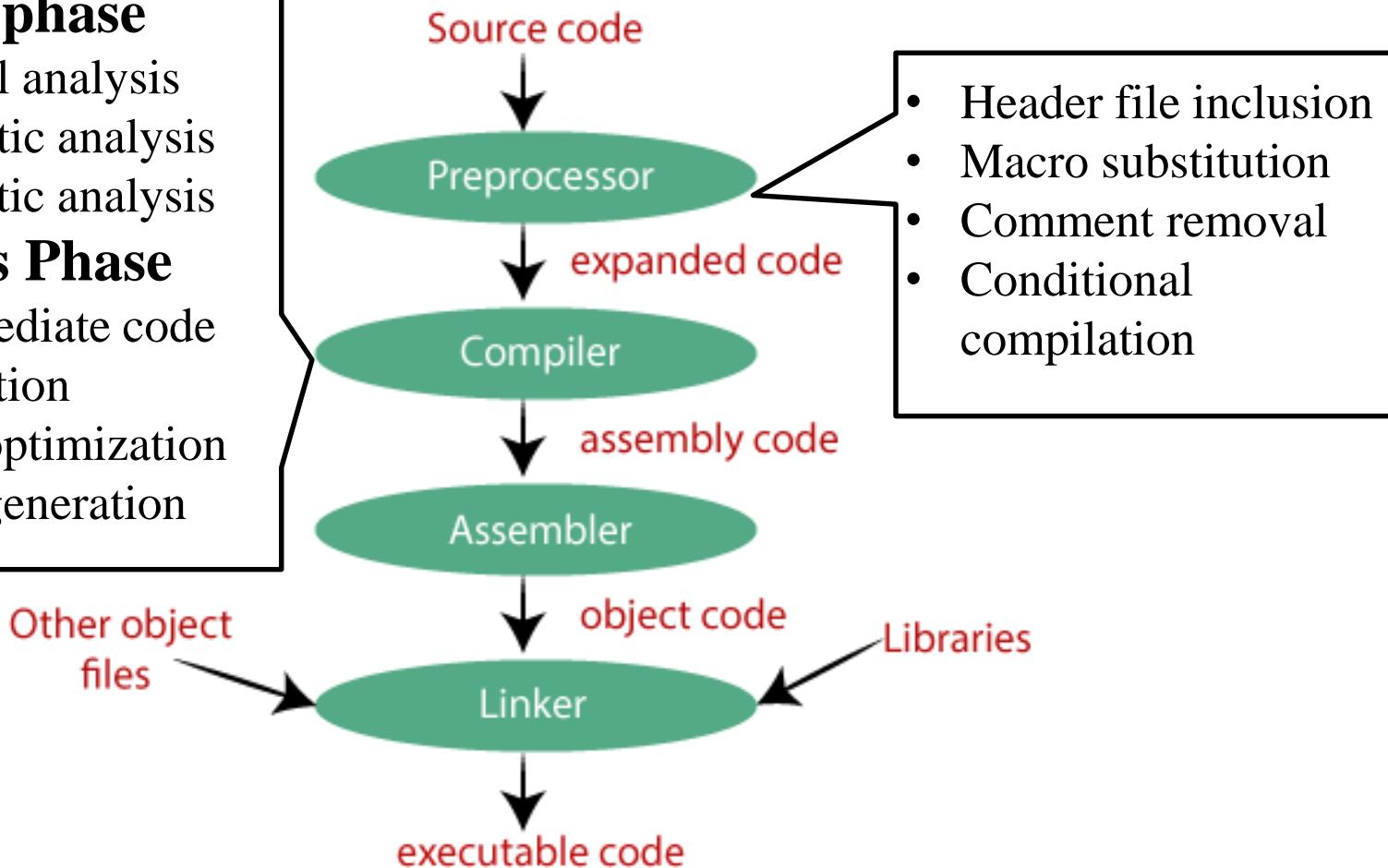
Compilation (cont..)

- **Analysis phase**

- Lexical analysis
- Syntactic analysis
- Semantic analysis

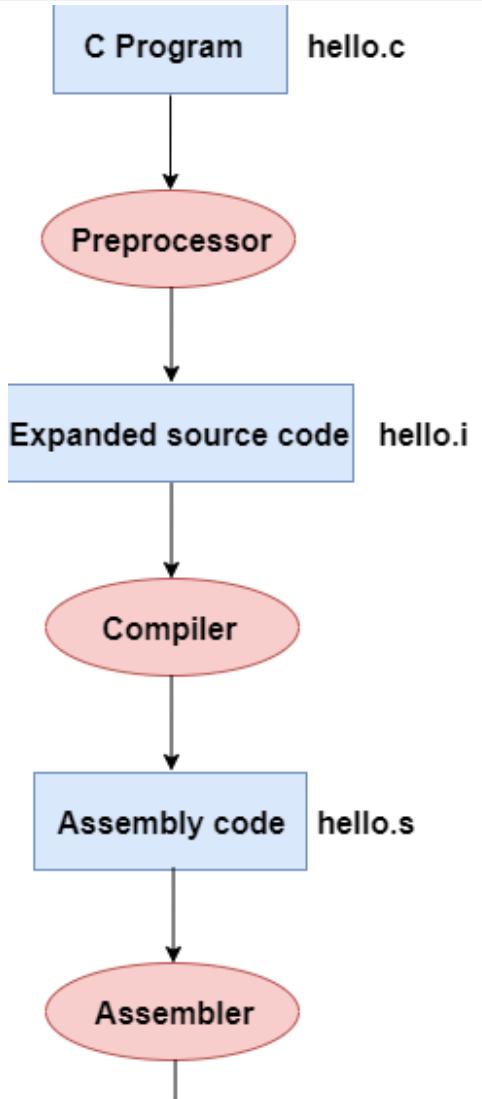
- **Synthesis Phase**

- Intermediate code generation
- Code optimization
- Code generation



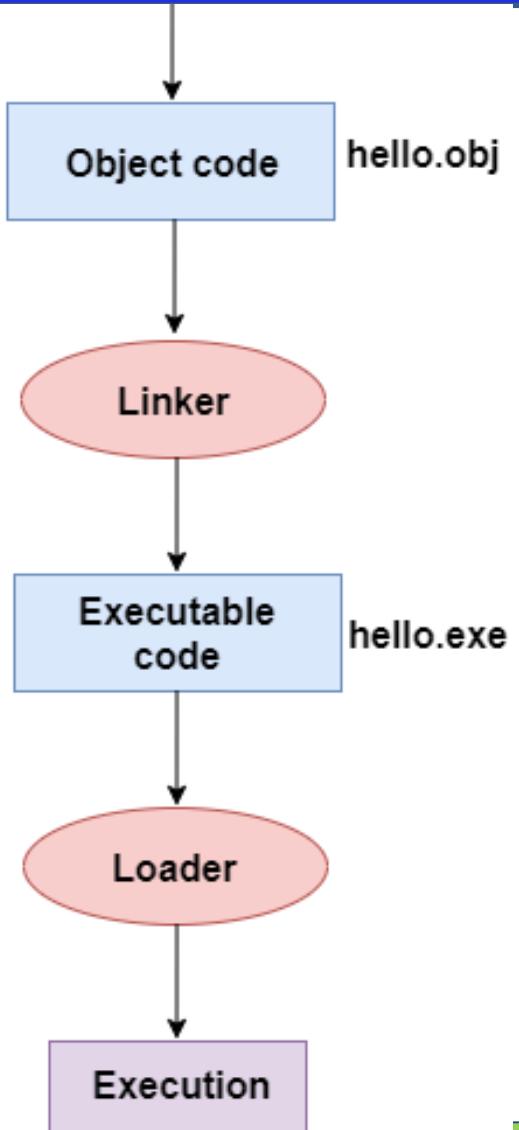


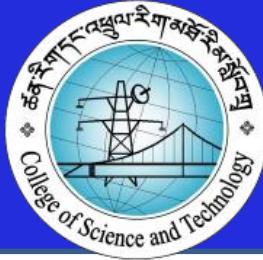
Compilation (cont..)





Compilation (cont..)





Compilation (Cont..)

- **Linker**
 - A program that links several object modules and libraries to form a single, coherent program.
- **Loader**
 - Loads executable file into main memory and starts execution
 - **Functions:** Allocation, Linking, Relocation & Loading

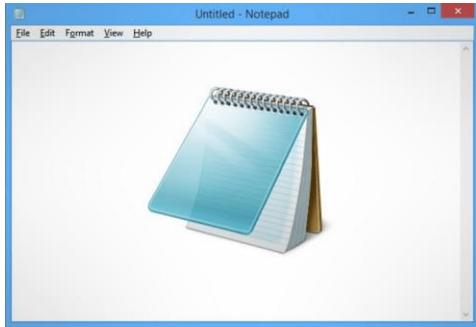
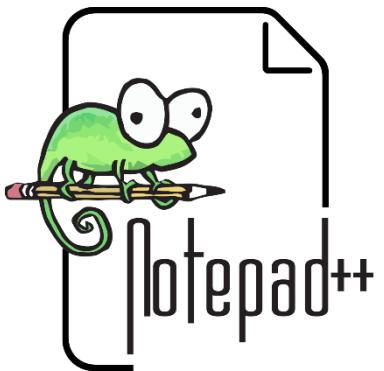


Storage Unit

NAME	EQUAL TO	SIZE(IN BYTES)
Bit	1 bit	1/8
Nibble	4 bits	1/2 (rare)
Byte	8 bits	1
Kilobyte	1024 bytes	1024
Megabyte	1, 024kilobytes	1, 048, 576
Gigabyte	1, 024 megabytes	1, 073, 741, 824
Terrabyte	1, 024 gigabytes	1, 099, 511, 627, 776
Petabyte	1, 024 terrabytes	1, 125, 899, 906, 842, 624
Exabyte	1, 024 petabytes	1, 152, 921, 504, 606, 846, 976
Zettabyte	1, 024 exabytes	1, 180, 591, 620, 717, 411, 303, 424
Yottabyte	1, 024 zettabytes	1, 208, 925, 819, 614, 629, 174, 706, 176



Editor



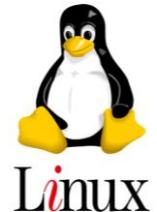


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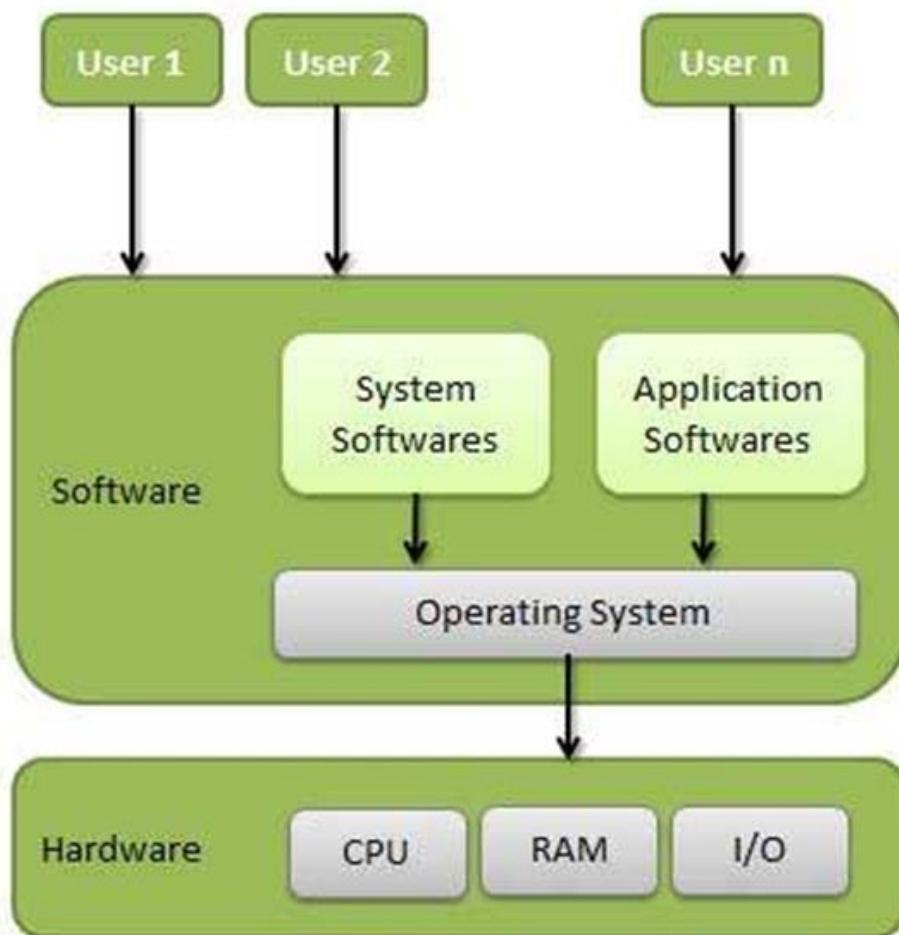
Operating System

- Program that acts as interface between user and hardware
- Software that manages computer hardware and software resources and provides common services for computer programs.





Operating System (cont..)



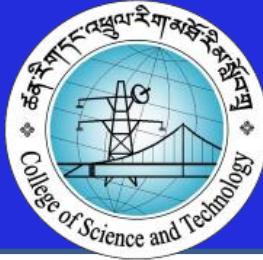


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Types of OS

- Broadly can be of following types
 - Batch Operating System
 - Multitasking/Time Sharing OS
 - Multiprocessing OS
 - Real Time OS
 - Distributed OS
 - Network OS
 - Mobile OS



Home Assignment

- Write brief notes on history of OS.
- Write short notes on different types of Operating system with some examples.
- What are the functions of OS?



Thank you