Overview of Computers

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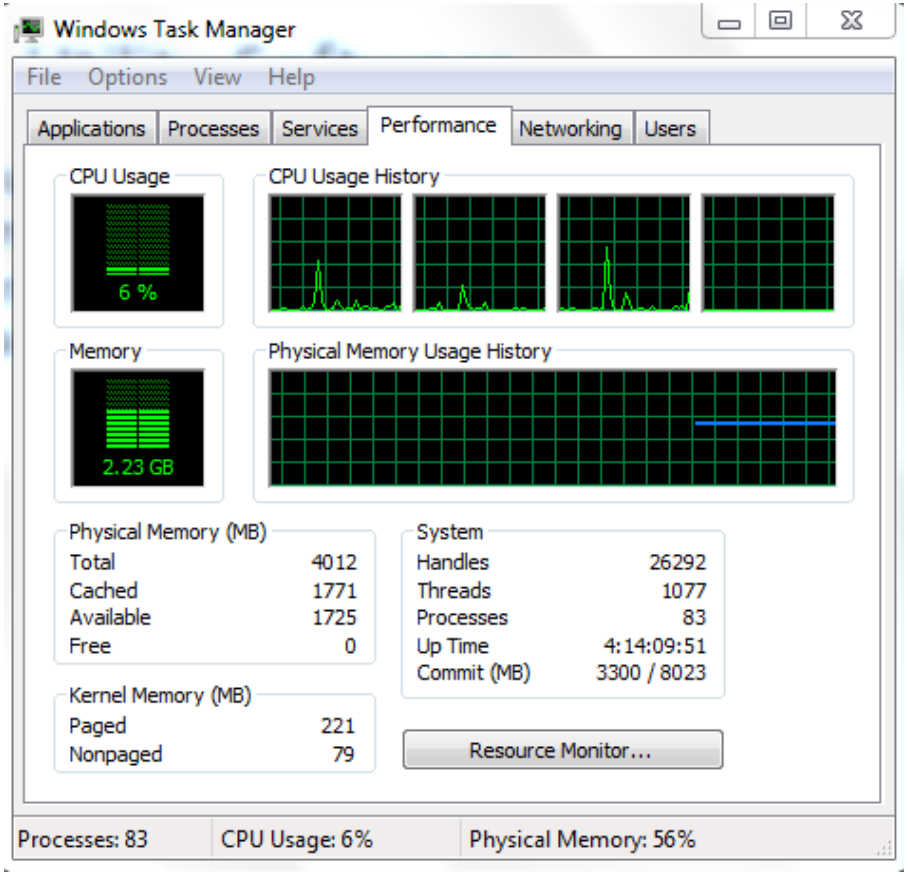
System Software

Operating System Functions

- Perform common computer hardware functions
- Provide an user interface
- Provide a degree of hardware independence
- Manage system memory
- Manage processing tasks
- Provide networking capability
- Control access to system resources
- Manage files

Utility Software

- Utility software (a type of system software) is designed to help you monitor and configure settings for your computer system equipment, the operating system, or application software.



Language Translators

- Systems software that converts a programmer's source code into its equivalent in machine language
  - Compilers
  - Interpreters

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Source code

High-level program code written by the programmer

Object code

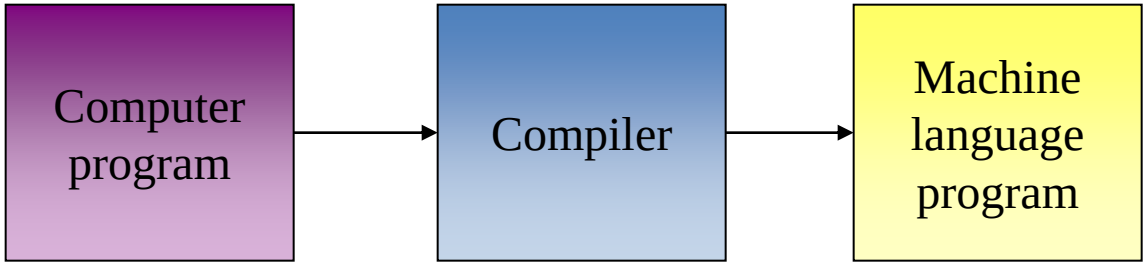
Another name for machine language code

Compilers

A language translator that converts a complete program into machine language to produce a program that the computer can process in its entirety

Compilers

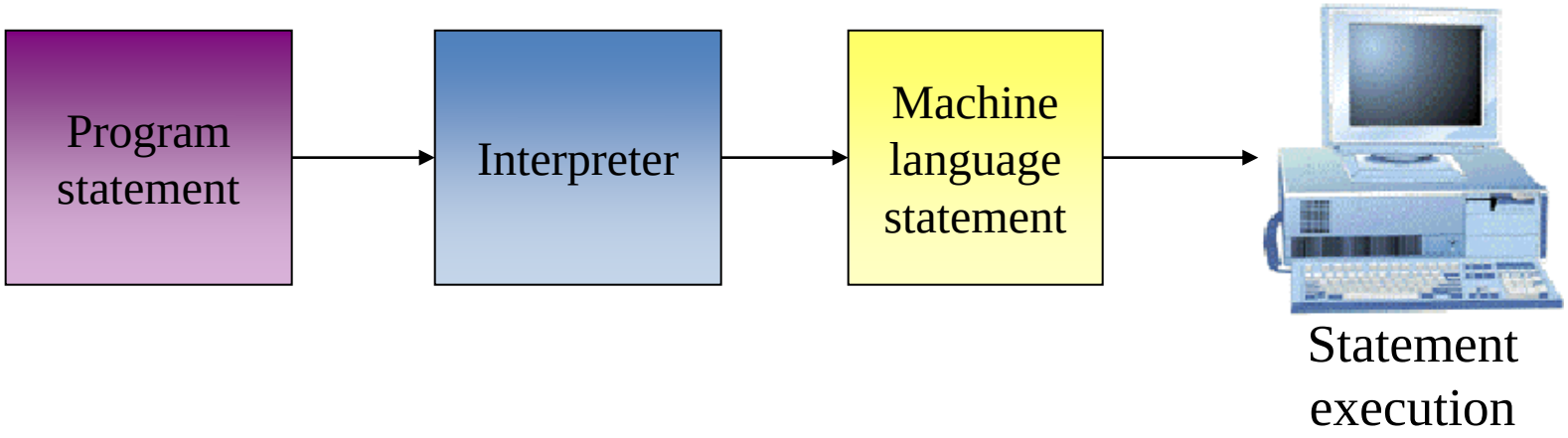
Step 1: Translate program



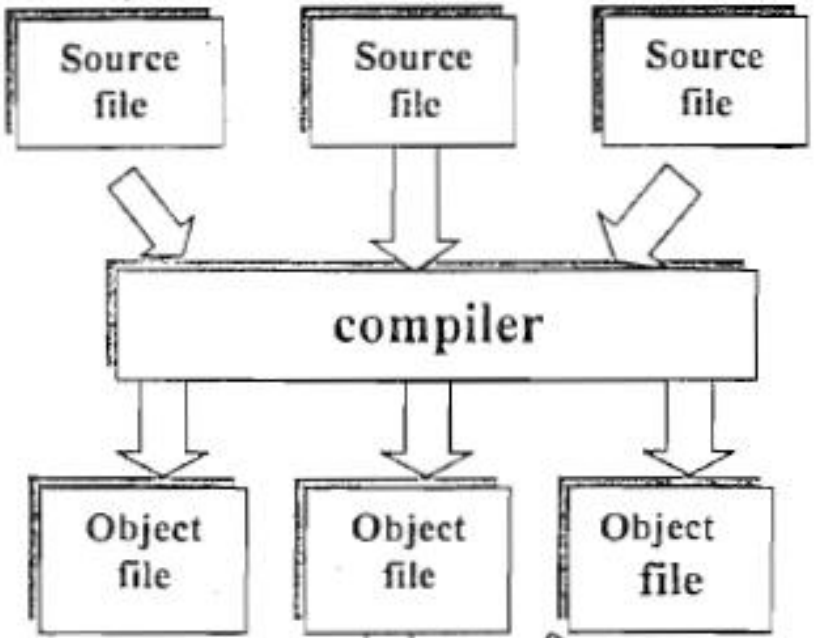
Step 2: Execute program

Interpreters

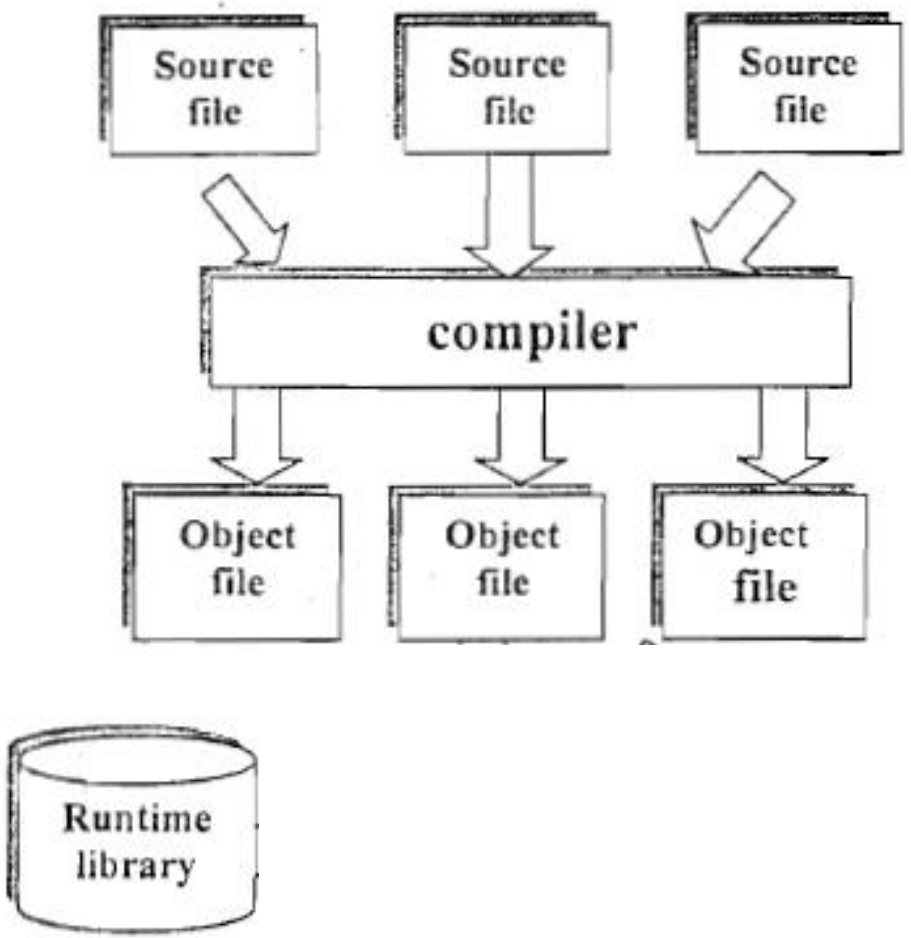
A language translator that translates one program statement at a time into machine code



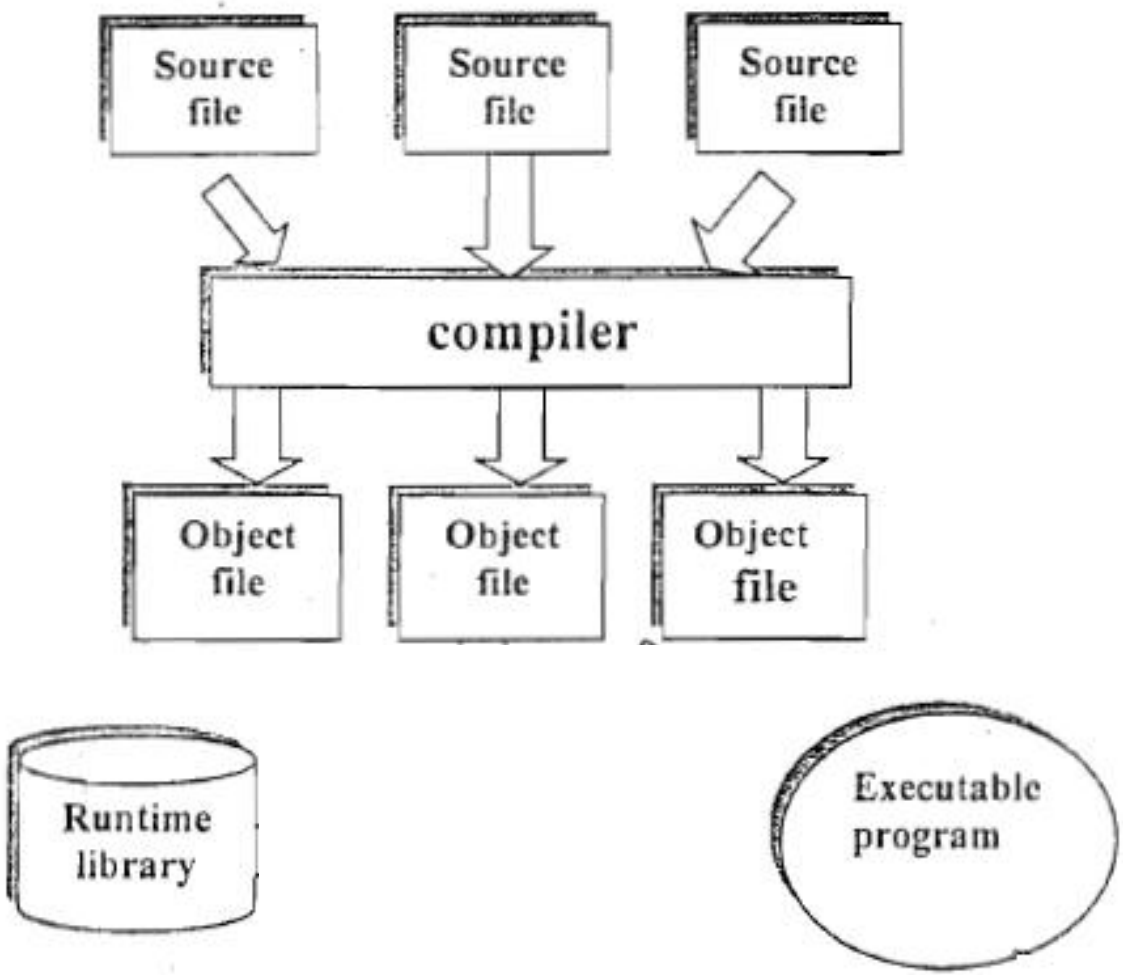
Linker


Source file
Source file
Source file
compiler
Object file
Object file
Object file

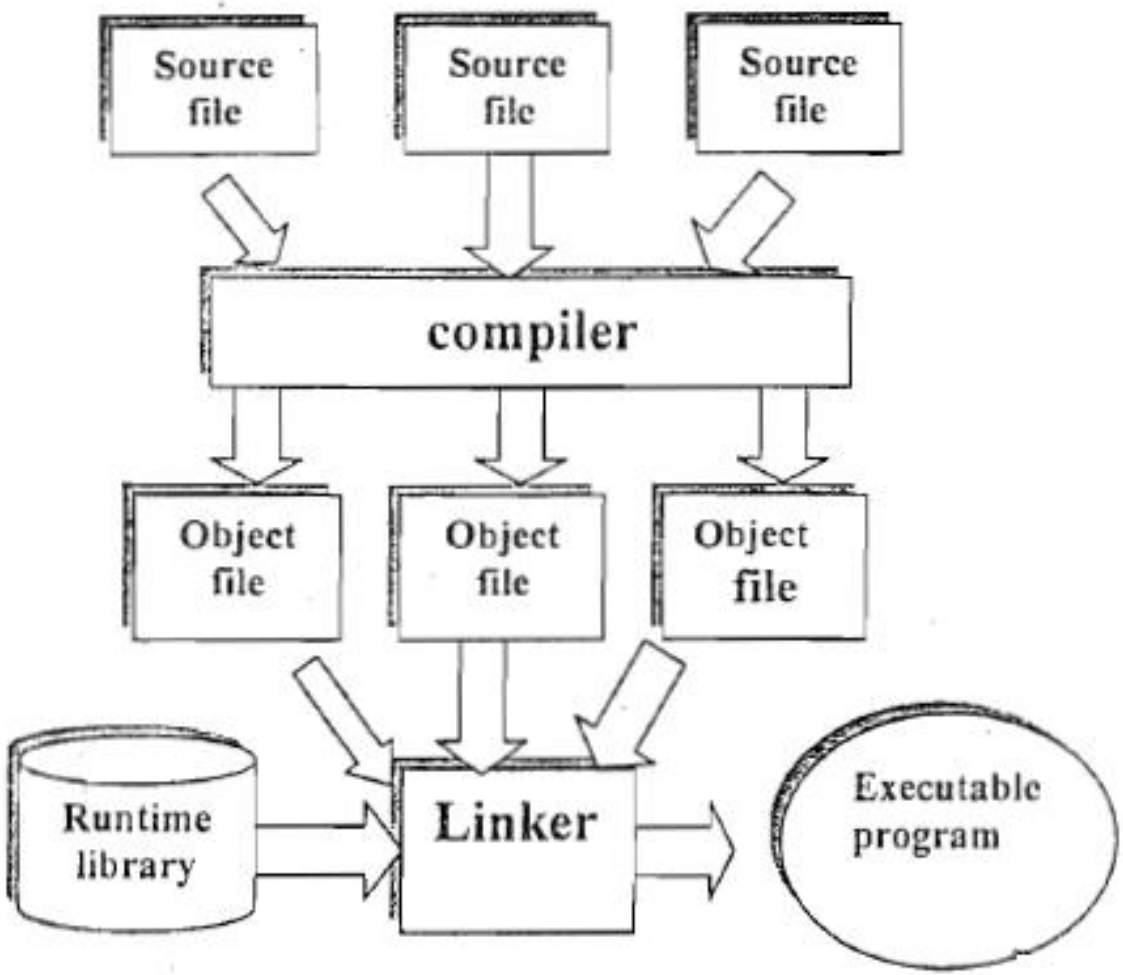
Linker


Source file
Source file
Source file
compiler
Object file
Object file
Object file
Runtime library

Linker


Source file
Source file
Source file
compiler
Object file
Object file
Object file
Runtime library
Executable program

Linker


Source file
Source file
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compiler
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Object file
Object file
Runtime library
Linker
Executable program

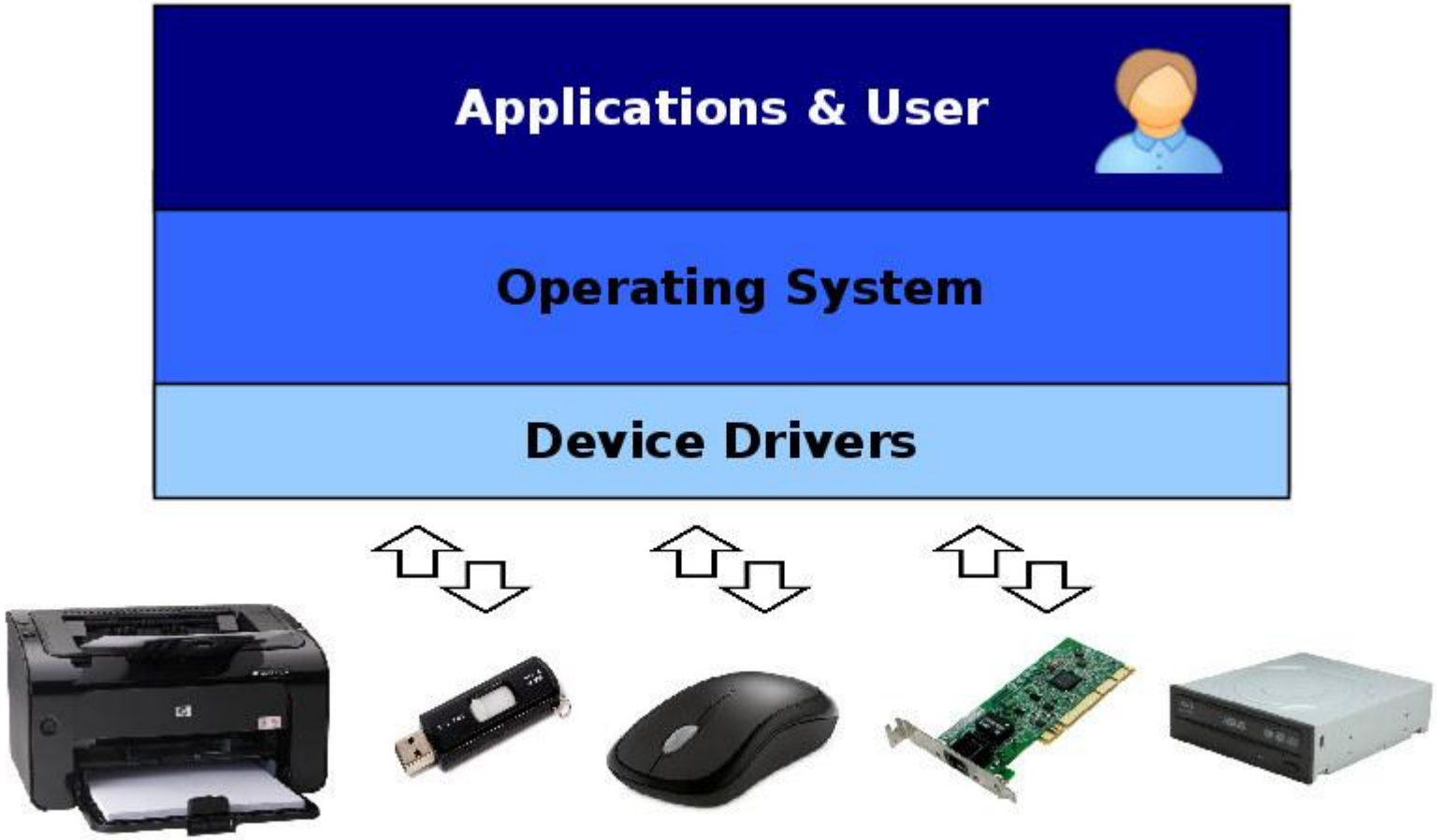
Loader

Loader -

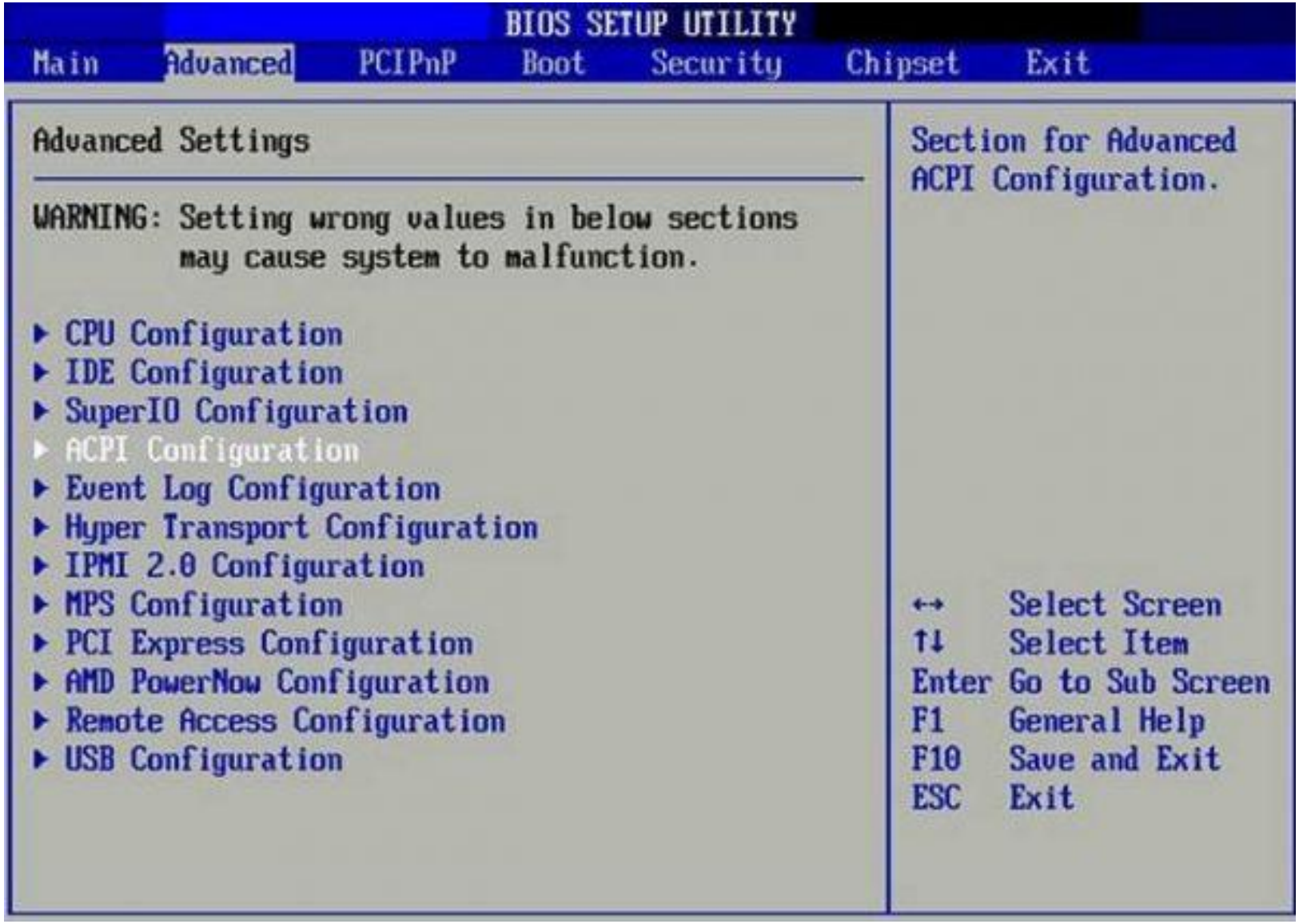
- loads the executable code into memory
- creates the program and data stack
- initializes the registers
- starts the code running

Device Drivers

- A device driver is software that helps a peripheral device establish communication with a computer.



BIOS


BIOS SETUP UTILITY
Main
Advanced
PCIPnP
Boot
Security
Chipset
Exit
Advanced Settings
WARNING: Setting wrong values in below sections may cause system to malfunction.
CPU Configuration
IDE Configuration
SuperIO Configuration
ACPI Configuration
Event Log Configuration
Hyper Transport Configuration
IPMI 2.0 Configuration
MPS Configuration
PCI Express Configuration
AMD PowerNow Configuration
Remote Access Configuration
USB Configuration
Section for Advanced ACPI Configuration.
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit