Welcome to Section 5

Computer Software

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Software and Types of Software
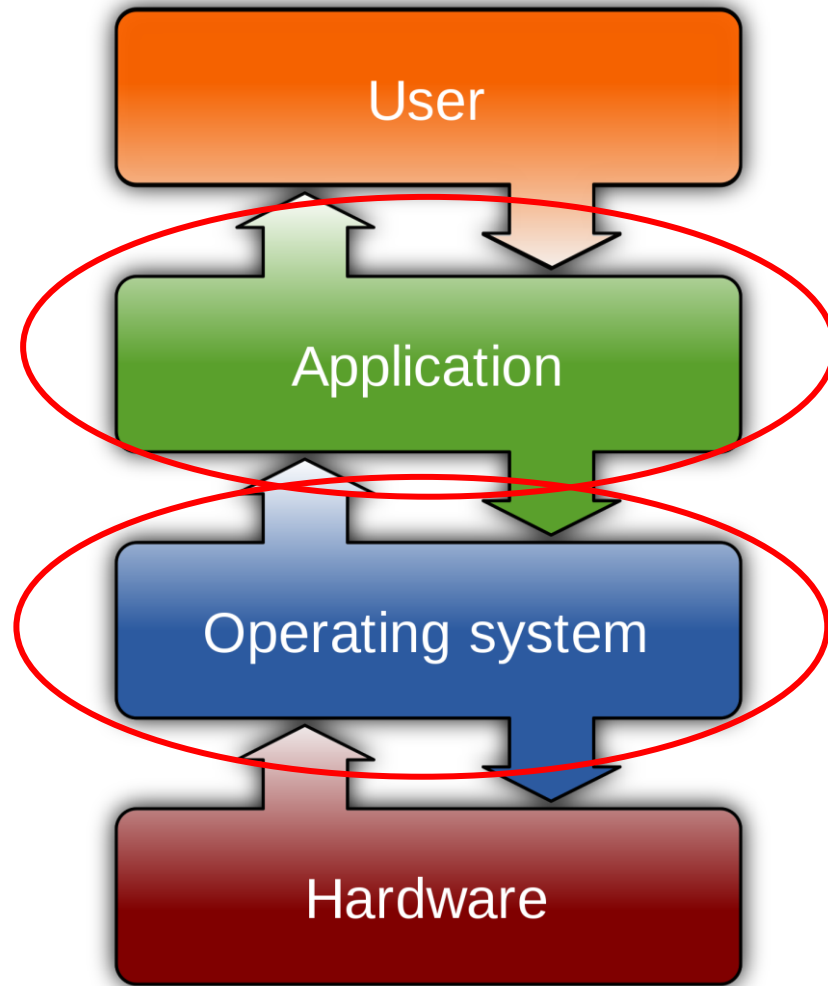
Types of Software

- System software
- Application
- Freeware
- Shareware
- Open-source software

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System Software

- System software lets you communicate between the other software and the hardware

- Following are a few examples of system software

  - **Operating systems**
    - Windows, Linux, MacOS, Chrome, Solaris, AIX etc.

  - **Firmware**
    - Firmware is the operational software embedded within ROM chip on motherboard
    - It has the set of instructions and sequence that are managed and executed before operating systems starts
      - BIOS is an example of firmware

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System Software

- **Device drivers**
  - Driver software is a type of system software which brings computer devices and peripherals to life. Drivers make it possible for all connected components and external add-ons to perform their intended tasks and as directed by the OS
  - Without device drivers the OS will not be able to communicate with the attached devices
  - All device drivers come with the device manufacturers
    - Examples include keyboard, mouse, external hard drive, printers, display etc.

- **Utility software**
  - Designed to manage the performance of your hardware and applications installed on your computer
    - Examples of Utility software
      - System backup software
      - Logger or log monitors
      - Disk cleaner
      - Security software.

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Application Software

- Application Software:
  - Also known as end-user programs or productivity programs are software that helps the user in completing tasks such as doing online research, jotting down notes, setting an alarm, designing graphics, keeping an account log, doing calculations or even playing games

  - Examples:
    - Word processor
    - Database
    - Accounting or financial software
    - Multimedia software
    - Education and Reference Software
    - Email applications (e.g. outlook, gmail etc.)
    - Graphics Software
    - Internet browsers

Freeware and Shareware

- Freeware software is available without any cost. Any user can download it from the internet and use it without paying any fee
  - Examples of Freeware
    - Skype
    - Yahoo messenger
    - Windows movie maker
    - Google toolbar
    - 7-zip.

- Shareware is a software that is freely distributed to users on a trial basis. It usually comes with a time limit and when the time limit expires, the user is asked to pay for the continued services
  - Examples of Shareware
    - Adobe
    - Turbotax
    - Windows server (OS)
   - MS SQL server.

Open-source Software (Type of Software)

- Open-source software is a type of computer software in which source code is released under a license in which the copyright holder grants users the rights to use, study, change, and distribute the software to anyone and for any purpose
- This means that any person can access the code and modify it to create new extensions, patches, or solutions. Linux, for example, is open source, and new programs can be created from its kernel
- They are similar to freeware

- Examples of open-source software
  - Linux operating system
  - Android by Google
  - MySQL
  - PostgreSQL
  - Open office
  - Firefox browser
  - VCL media player

Types of Software
- System software
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Accessing BIOS

- BIOS is the firmware of a computer

- When you first power-on a computer, it goes through a very quick POST (power on self test). If you can hit the correct hotkey before the POST is completed (or hold it down as you hit the power button), you will get into the BIOS menu

- The main use of BIOS is to act as a middleman between OSes and the hardware they run on during the initial boot up phase
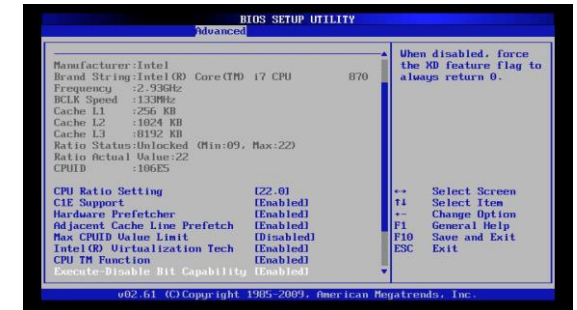
Accessing BIOS

BIOS Keys by Manufacturer

Here's a list of common BIOS keys by brand. Depending on the age of your model, the key may be different.

- **ASUS:** F2 for all PCs, F2 or DEL for Motherboards
- **Acer:** F2 or DEL
- **Dell:** F2 or F12
- **HP:** F10
- **Lenovo (Consumer Laptops):** F2 or Fn + F2
- **Lenovo (Desktops):** F1
- **Lenovo (ThinkPads):** Enter then F1.
- **Microsoft Surface Tablets:** Press and hold volume up button.
- **Origin PC:** F2
- **Samsung:** F2
- **Toshiba:** F2
- **Zotac:** DEL
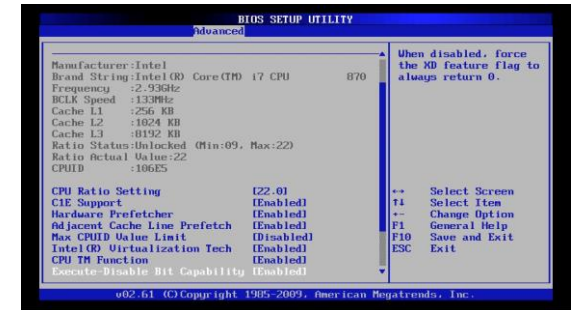
- Programs or Applications are the main reasons we use computers

What is…

- Package?

- Application?

- Program?

- Service?

- Daemon? – (IE)

- Process? – (IE)

- Thread? – (Multiple IE).