SAN PEDRO JUNIOR COLLEGE
Computer Applications
Computer Software

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OBJECTIVES

At the end of this chapter you should be able to:

• Identify System Software
• Identify Application Software
• Distinguish between systems software and application software.
Application Software and System Software: How is software categorized?

Important Information

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SYSTEM SOFTWARE:

- controls the hardware and how it works. It is designed to help the computer carry out basic operating functions.

- 3 types of Systems Software:
  1. Operating Systems
  2. Translators
  3. Utilities
Operating Systems (OS)

- Core program of a PC. It controls the hardware and running of the application program. Operating system: A collection of programs that manage and coordinate the activities taking place within a computer system.

- **Booting Up** – is a process that starts the OS when a user turns on a PC.
FIGURE 5-1
The intermediary role of the operating system. The operating system functions as a middleman between the user and the computer, as well as between application software programs and the computer system's hardware.

1. USER
The user instructs the operating system to start an application program.

2. OPERATING SYSTEM
The operating system starts the requested program.

3. USER
The user instructs the application program to print the current document.

4. APPLICATION PROGRAM
The application program hands the document over to the operating system for printing.

5. OPERATING SYSTEM
The operating system sends the document to the printer.

6. PRINTER
The printer prints the document.
Examples of Operating Systems

1. OS X (Version: Mountain Lion, Mavericks, Yosemite)

2. Linux (Type: Mint, Mandrake, Ubuntu)

3. UNIX (Variants: Solaris)

4. Windows (Versions: 7, 8, 10 Server 2003/2008/2012)

5. Android (Version: JellyBean, KitKat, Lollipop)
COMPUTER SOFTWARE

- MAC OS X (Yosemite) Screenshot
COMPUTER SOFTWARE

- Linux (Ubuntu 12.04) Screenshot
COMPUTER SOFTWARE

- Unix (Solaris) Screenshot
COMPUTER SOFTWARE

- Windows 10 Screenshot (Microsoft)
COMPUTER SOFTWARE

- Android Lollipop Screenshot (Google)
Translators

• a.k.a. Translation Programs, are systems software that convert code into a programming language that a PC can process.

• 3 types of translators

1. **Interpreter**: converts a program into machine code line by line.

2. **Compiler**: translates all program into machine code all at once to create a stand alone program.

3. **Assembler**: translates assembly language into machine code
Utilities

- They maintain and protect the OS and usually included with the OS.
- Utilities perform the following tasks:
  1. Manage files by renaming, sorting, listing, backing up, recovering and deleting them.
  2. Perform disk formatting, which may include clearing a disk and reprogramming from scratch.
  3. Scan and defragment a HDD
  4. Scan and remove viruses from a HDD.

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COMPUTER SOFTWARE

- Application Software
  - General Purpose
  - Special Purpose
  - Custom Written
  - Integrated
COMPUTER SOFTWARE

- Microsoft Office Word 2007
- Microsoft PowerPoint
- CorelDRAW X3
- Adobe Photoshop
- Macromedia Freehand MX
**COMPUTER SOFTWARE**

- **General-purpose application software:** can be used by most people for many different purposes. It is usually cheap and reliable. For Example: Word Processing applications because they are used for many reasons by different persons

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**COMPUTER SOFTWARE**

- **Special-Purpose application software:** is designed only for a specific task and will be used only for that purpose. For Example: Quickbooks – Accounting

- **Advantage:**
  1. Configured to suit the particular work for which you want to use it

- **Disadvantage**
  1. Limited to only the area that it is designed for.
Custom-written application software: are programs designed to meet the needs of a specific individual or company.

Advantages
1. You get exactly what you want
2. You have closer control over the revisions made to the software
3. A program made for a specific purpose runs faster as optimized for single purpose.
**COMPUTER SOFTWARE**

- **Custom-written software** are programs designed to meet the needs of a specific individual or company.

- **Disadvantages**
  1. It takes time to develop
  2. Cost of development is higher
  3. May require additional staff training
  4. New employees will need to be trained for customized
  5. It may contain bugs & errors to program code.

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**Integrated Software**

is a set of useful applications that are bundled together or sold together as one package. Examples:

MS-Office – Word, Excel, Powerpoint, Access, Publisher

OpenOffice – Writer, Calc, Impress, Base, Draw

**Advantages:**

1. cost-effective way of buying applications.
2. Easy to transfer data between these applications

**Disadvantages:**

1. Extra application that you have no use for.
2. Applications may not have full functionality.
COMPUTER SOFTWARE

EXERCISE 5.1
Say whether the following statements are true or false. Explain why false statements are false.
1. A typical operating system task is scanning a computer for viruses.
2. Windows Vista is an example of an operating system.
3. An interpreter translates code line by line into machine language.
4. Booting is important for finding the utilities programs to run a computer.
5. A translator performs tasks such as sorting, renaming and backing up files.

EXERCISE 5.2
Match each description to the type of application software it describes.

Descriptions
a. Tailor-made software that is often used to modify existing software to perform specific tasks
b. Software that is created for a specific kind of task or industry
c. Popular software that has many uses for many different people
d. A software package that has more than one application

Types of application software
1. Integrated
2. General-purpose
3. Special-purpose
4. Custom-written

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## COMPUTER SOFTWARE

### WHAT HAVE YOU LEARNT?

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>What is the name given to software that can be used by many people for a wide range of tasks?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>General-purpose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Custom-written</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>Integrated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>Special-purpose</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1 mark)

<table>
<thead>
<tr>
<th>2</th>
<th>Which of these is an example of systems software?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Spreadsheets</td>
</tr>
<tr>
<td>b</td>
<td>Databases</td>
</tr>
<tr>
<td>c</td>
<td>Utilities</td>
</tr>
<tr>
<td>d</td>
<td>Games</td>
</tr>
</tbody>
</table>

(1 mark)

<table>
<thead>
<tr>
<th>3</th>
<th>Which of these is a translator that translates code line by line?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Compiler</td>
</tr>
<tr>
<td>b</td>
<td>Interpreter</td>
</tr>
<tr>
<td>c</td>
<td>Assembler</td>
</tr>
<tr>
<td>d</td>
<td>Operating system</td>
</tr>
</tbody>
</table>

(1 mark)

<table>
<thead>
<tr>
<th>4</th>
<th>Jim wants to install a program on his computer to do a disk cleanup and manage files. What type of software is this?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Application</td>
</tr>
<tr>
<td>b</td>
<td>Operating system</td>
</tr>
<tr>
<td>c</td>
<td>Translator</td>
</tr>
<tr>
<td>d</td>
<td>Utility</td>
</tr>
</tbody>
</table>

(1 mark)

| 5 | State two advantages of using an integrated software package. |

(2 marks)

| 6 | State one disadvantage of using an integrated software package. |

(1 mark)

| 7 | State two advantages of using a general-purpose software package. |

(2 marks)

| 8 | Name two types of systems software. |

(2 marks)

| 9 | An engineering firm wants to purchase software designed specifically for engineering drawing. What kind of application is this? |

(1 mark)

| 10 | What is the purpose of having utility programs on your computer? |

(1 mark)