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## Software & Programs

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✓ **WHAT IS SOFTWARE?**  
A collection of computer programs that govern the operation of a computer

✓ **WHAT IS A PROGRAM?**  
A list of instructions that can be carried out by the computer.

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# 3 Categories Of Software

Operating Systems

Programming Languages

Applications

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SOFTWARE CATEGORIES

# Operating Systems

Collection of programs that:

- provide a user interface
- manage computer resources
- execute application programs

**USER INTERFACE**

A means to communicate with the programs and hardware

- Command Line Interface (CLI)
- Graphical User Interface (GUI)

**MANAGE COMPUTER RESOURCES**

- Processor
- Memory
- Peripheral devices
- Networks
- File management

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SOFTWARE CATEGORIES

# Programming Languages

Artificial language designed to communicate instructions to a machine, particularly a computer.

Gives us syntax and semantics to write computer programs

- Low-level languages
- High-level languages
- Object Oriented Languages
- Visual Programming

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# Low-Level Languages

Programs that are written for a specific computer system.

MACHINE CODE

Binary code the processor directly executes

ASSEMBLY CODE

Text abbreviations for binary commands. Requires a program (assembler) to convert abbreviations to binary code.

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## High-Level Languages

Syntax and semantics are not dependent on a specific computer system.

- More English like commands
- Easier to debug errors

Need to be converted to machine code

### INTERPRETER

Converts and executes one line of code at a time



### COMPILER

Converts entire program to an executable file



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## Object-Oriented Languages

- Self contained programmed objects are reused into an application
- Modular approval reduces time to record similar object routines

## Visual Programming

- Use graphic interface to expedite the programming process
- Enables rapid application development

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SOFTWARE CATEGORIES

Application Programs

Software that performs a specific task

MEDIA SPECIFIC APPLICATIONS

Create and edit specific media content

AUTHORING APPLICATIONS

Tools to integrate media components and provide a user interface

Media Specific Applications

TEXT

Word processors, text editors, portable document generators

SOUND

Sound capture applications, synthesized sound applications

ANIMATION

Software to create and edit animated sequences. objects (drawn or imported) are manipulated in a series of frames

GRAPHICS

Paint programs, drawing programs, 3-D imaging applications

VIDEO

Source material, synchronize clips to soundtrack, add special effects, save as digital video

MEDIA UTILITIES

Add functionality to media-specific applications such as file compression and file conversion

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# Authoring Programs

Programs designed to facilitate the creation of multimedia products.

- Assemble media elements
- Synchronize content
- Design user interface
- Provide user interactivity

There are 3 main authoring metaphors

**CARD-BASED**  
Media is arranged like a stack of cards

**TIMELINE**  
Organizes media and interactivity as a series of frames

**ICON**  
Icons define media and forms of interactivity.

# You Decide!

Label each as an operating system, programming language, application

- Word
- Photoshop
- Java
- OS X
- Visual Basic
- Flash MX
- Vista
- C#
- Linux
- Open Office
- HTML
- JavaScript
- Illustrator
- Director
- Unix
- Assembly