



Tishk International University  
Faculty of Applied Science  
Department of Cybersecurity and  
Artificial Intelligence  
CBS 111 and AI 115 Intro to IT

2026 Jan 27

# Operating System Windows vs Linux

*Lecture 3*

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# *Learning Outcome*

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- Define what an Operating System (OS) is and explain its role in managing computer hardware and software resources.
- Identify and explain the main components of an Operating System, such as the kernel, shell, file system, user interface, and system utilities.
- Use basic command-line commands in both Windows and Linux to perform common tasks such as navigating directories, managing files, and viewing system information.

# *Outline*

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- What is Operating System?
  - OS Structure
  - Component of OS
  - Basic Windows vs Linux Commands
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# *Take Note*

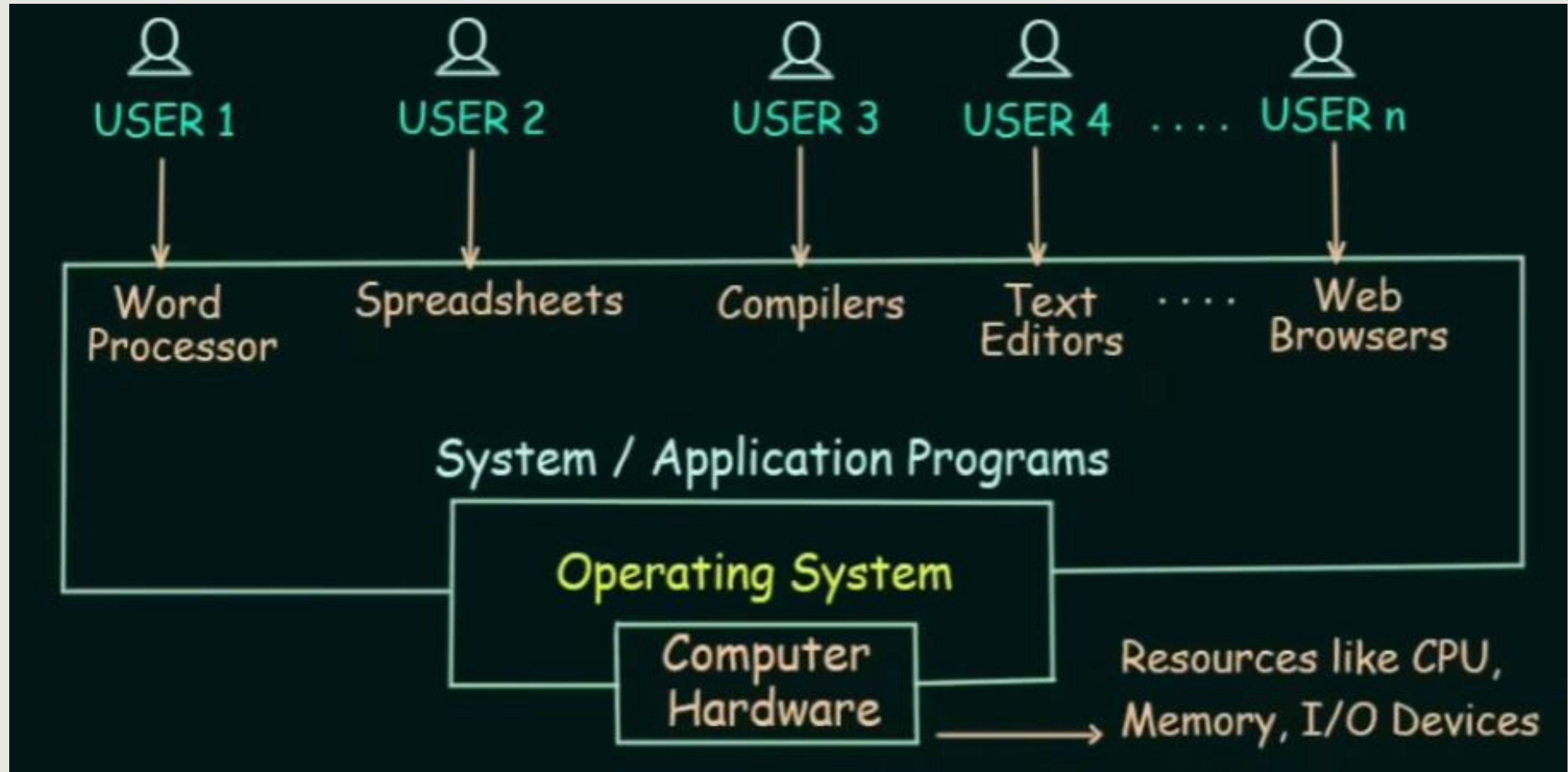
**“Not all topics explained in class are covered in the lecture.”**



# *What is Operating System?*

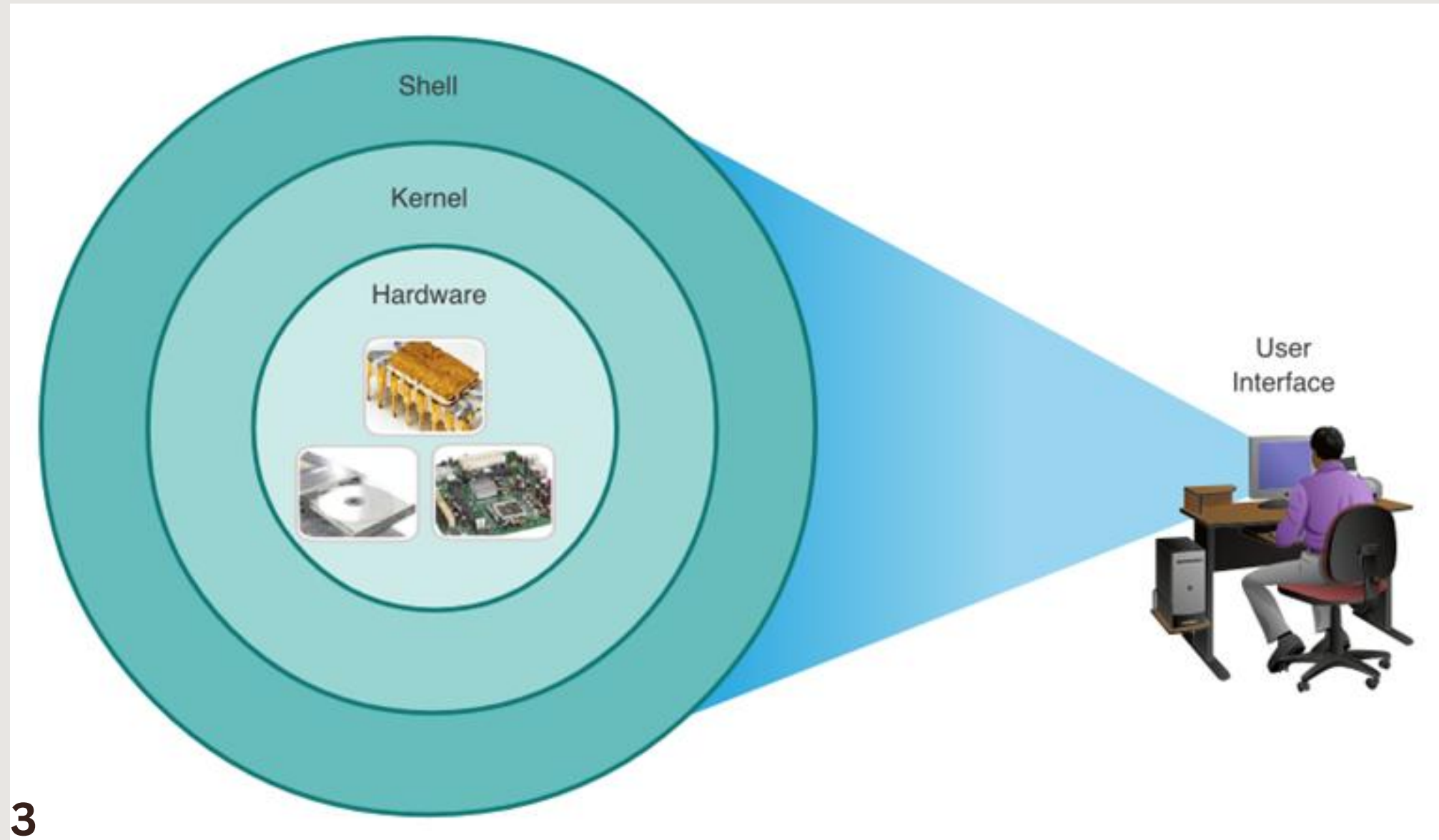
- An OS is a program that controls the computer's hardware and helps users run applications.

# OS - Structure

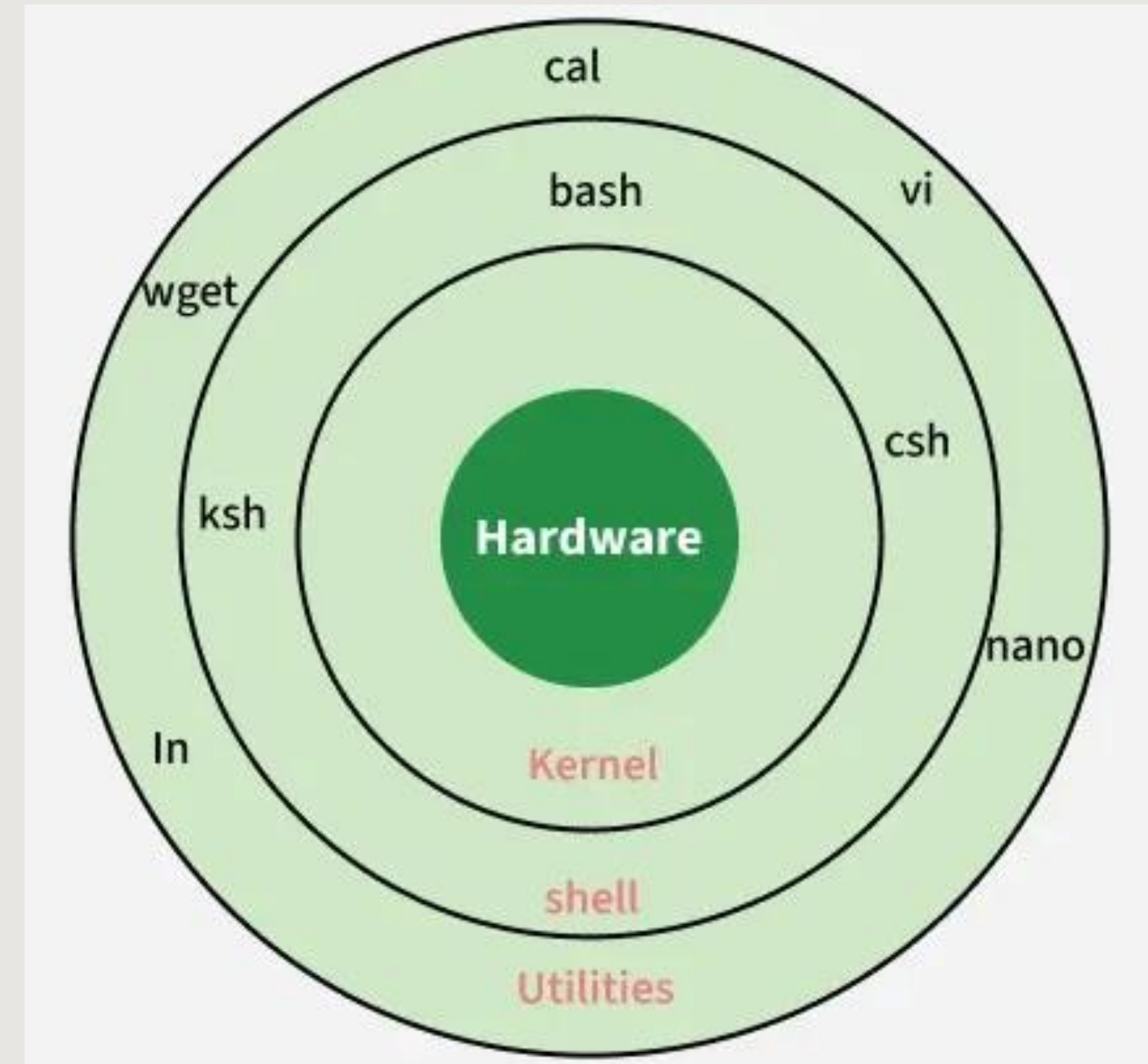


# Components of Operating System

- Kernel
- Shell
- User Interface



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# *User Interface (GUI VS CLI)*

1. GUI (Graphical User Interface) A GUI lets users interact with the computer using visual elements like windows, icons, buttons, and menus.

2. CLI (Command Line Interface) A CLI allows users to interact with the system by typing text commands into a terminal or console.



*GUI- Linux*



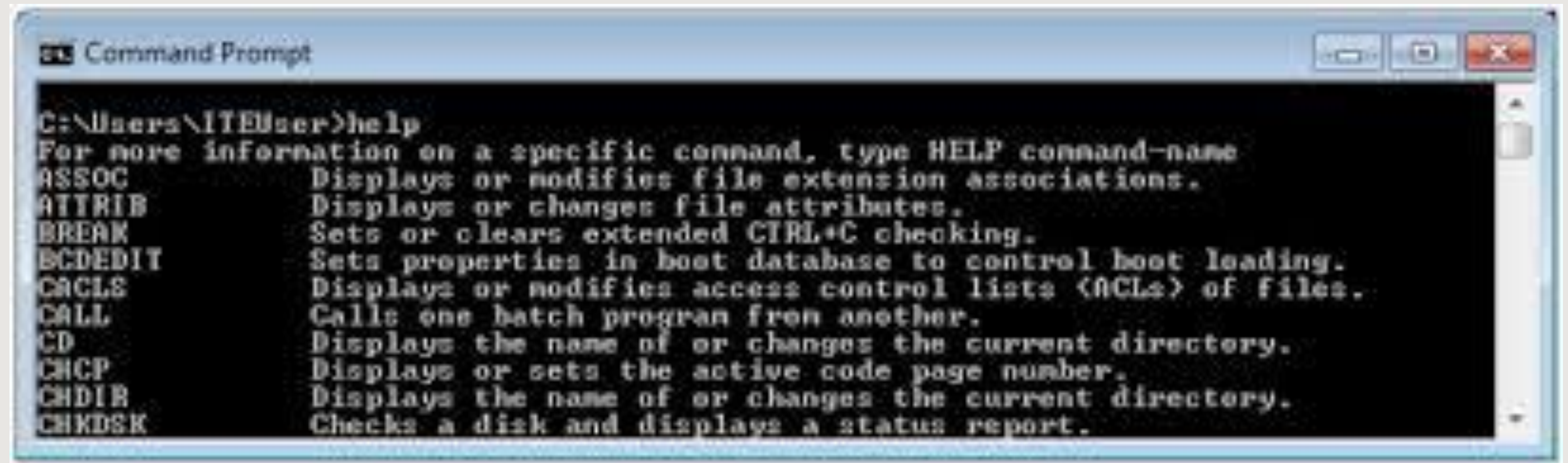
*GUI- Windows*

# CLI - Linux



```
john@ubuntu: ~/john_directory
john@ubuntu:~$ pwd
/home/john
john@ubuntu:~$ ls
john_directory  john_file
john@ubuntu:~$ cd john_directory
john@ubuntu:~/john_directory$ history
 1  pwd
 2  ls
 3  cd john_directory
 4  history
john@ubuntu:~/john_directory$
```

# CLI - Windows



```
Command Prompt
C:\Users\ITEUser>help
For more information on a specific command, type HELP command-name
ASSOC      Displays or modifies file extension associations.
ATTRIB     Displays or changes file attributes.
BREAK      Sets or clears extended CTRL+C checking.
BCDEDIT    Sets properties in boot database to control boot loading.
CACLS      Displays or modifies access control lists (ACLs) of files.
CALL       Calls one batch program from another.
CD         Displays the name of or changes the current directory.
CHCP       Displays or sets the active code page number.
CHDIR      Displays the name of or changes the current directory.
CHKDSK     Checks a disk and displays a status report.
```

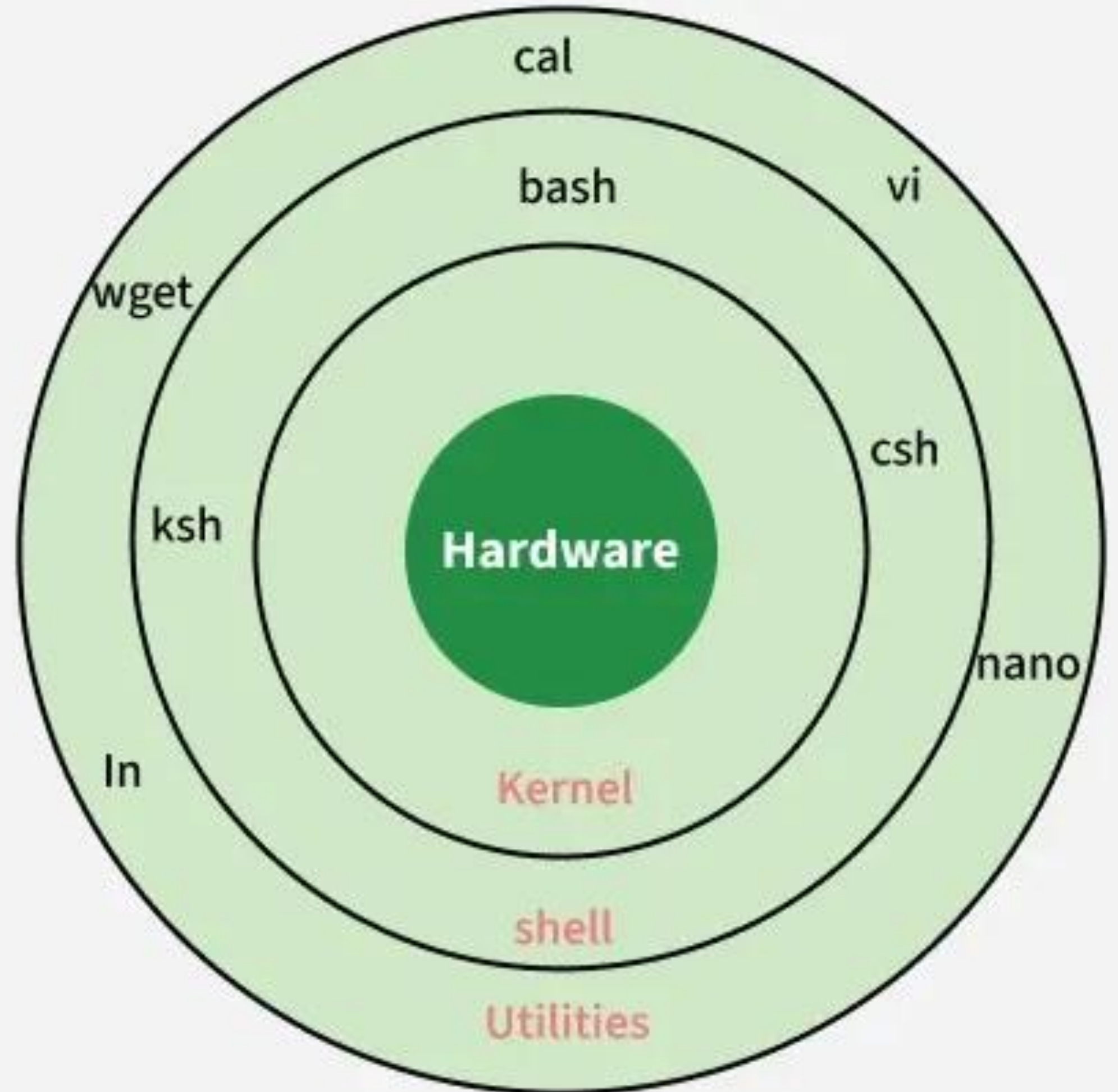
# Shell

- computer shell is a user interface for accessing an operating system's services, typically via a Command Line Interface (CLI) or Graphical User Interface (GUI).

## Shell Symbols in Windows

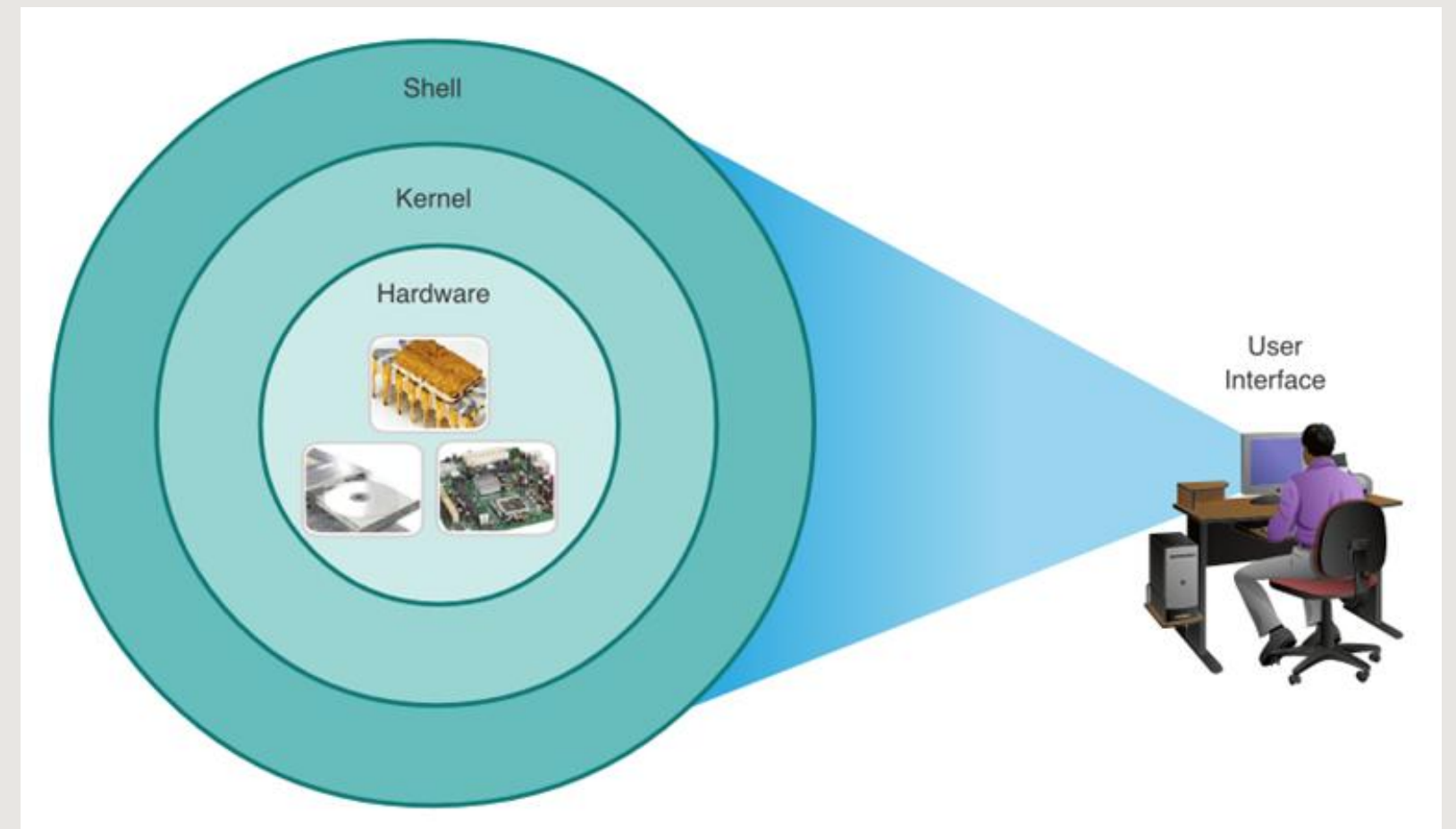
- C:\>

## Shell Symbols in Linux \$



# *Kernel*

- The core part of the OS.
- Manages CPU, memory, and device communication.
- Provides low-level services to applications (like process scheduling, memory management, and interrupt handling).



*Assignment*

*Deadline 31 January, 2026*

*at 11:59 PM*

2025 Dec 23

THANK YOU