



# Difference between Terminal, Console, Shell, and Command Line



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## Terminal :

A terminal is a text input and output environment. A terminal window, also known as a terminal emulator, is a text-only window that emulates a console in a graphical user interface (GUI). In other words, a graphical user interface application from which we can access a user's console. A terminal is a program that allows you to run a shell. Is a device with a human-readable display that accepts a stream of characters and displays them. Only chars are making their way there. They're commonly used in networking and device debug interfaces.

## **Console :**

A console is a physical terminal; an instrument panel containing computer controls. A console is a type of terminal. Is a window in which your text-mode programs are active. This window recognizes key presses and is aware of its width and height. A full-screen mode is an option.

## **Shell :**

Shell stands for the command-line interpreter. A shell is a program that processes commands and outputs the results. A shell is a layer that sits on top of the kernel: 1) It interprets and processes the commands entered by the user. Unlike users, the shell has access to the kernel. Users can only gain access to the kernel by using a shell and entering commands (i.e. running programs). System calls are used by programs to gain access to kernel functionality. The system API is made up of all system calls.

## Command-Line :

A command line is an area to the right of the command prompt on an all-text display mode computer monitor (typically a CRT or LCD panel) where a user enters commands and data. This is the line where you type commands. It is typically used to indicate that you must run something in the text mode window (command line interface) provided by your operating system.

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Difference between Terminal, Console, Shell, and Command Line :

The table below illustrates the distinctions between Terminal, Console, Shell, and Command Line:

Sr. No.	Terminal	Console	Shell	Command-line
1	A terminal is a text input and output environment.	A physical terminal is referred to as a console.	The shell is a command-line interpreter.	A command line, also known as a command prompt, is a type of interface.
2	A terminal is a wrapper program that runs a shell and allows us to enter commands.	The console is a type of terminal. It is a window in which your text-mode programs are active.	The shell is the program that actually processes commands and outputs results.	A command-line interface is any type of interface that is used to enter (textual) commands. One of these is the terminal, but some programs have their

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				interfaces.
3	The terminal is a program that displays a graphical interface and allows you to interact with the shell.	The console consisted of a single keyboard and monitor plugged into a dedicated serial console port on a computer for low-level direct communication with	A shell is a user interface for accessing the services of an operating system.	A command-line interface (CLI) is a computer program that processes commands in the form of lines of text. The user typically interacts with the shell via a command-

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Sr. No.	Terminal	Console	Shell	Command-line
4	The term terminal can also refer to a device that allows users to interact with computers, typically via a keyboard and display.	A console is a physical terminal that is the primary terminal that is directly connected to a machine. The console is recognized by the operating system as a (kernel-implemented) terminal.	A shell is a primary interface that users see when they log in, and its primary function is to launch other programs.	A command line is an interface that allows a user to type a command (which is expressed as a sequence of characters — typically a command name followed by some parameters) and then press the Return key to execute that command.
5	Some types of terminal emulators include: <ul style="list-style-type: none"> <li>• Command prompt</li> <li>• guake</li> <li>• gnome-terminal</li> <li>• terminator</li> </ul>	For example, Famicom, Xbox, PlayStation, Nintendo Switch, Wii, and Wii U, etc. are all examples of consoles.	Some examples of shells are: <ul style="list-style-type: none"> <li>• Bash, fish, zsh, ksh, sh, tsch</li> <li>• Power Shell, pwsh</li> <li>• cmd, yori, 4dos, command.com</li> </ul>	Some examples of Command-line interface are: <ul style="list-style-type: none"> <li>• Microsoft Windows,</li> <li>• DOS Shell, and</li> <li>• Mouse Systems Power Panel.</li> </ul>

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