***Fixed Logic device:***

the circuits in a **fixed logic device** are permanent, they perform one function or set of functions - once manufactured, they cannot be changed.

***Programmable Logic Device:***

A **programmable logic device** (PLD) is an electronic component used to build reconfigurable digital circuits. Unlike integrated circuits (IC) which consist of **logic** gates and have a fixed function, a PLD has an undefined function at the time of manufacture. The term commonly refers to devices such as [ROMs](https://en.wikipedia.org/wiki/Read-only_memory), [PALs](https://en.wikipedia.org/wiki/Programmable_array_logic), [PLAs](https://en.wikipedia.org/wiki/Programmable_logic_array) and [GALs](https://en.wikipedia.org/wiki/Generic_array_logic).

Another key benefit of using PLDs is that during the design phase customers can change the circuitry as often as they want until the design operates to their satisfaction. That's because PLDs are based on re-writeable memory technology - to change the design, simply reprogram the device.

Generally, PLDs can be described as being one of three different types:

* Simple Programmable Logic Devices (SPLDs)
* Complex Programmable Logic Devices (CPLDs)
* Field Programmable Gate Arrays (FPGAs)

A **programmable logic array** (PLA) is a kind of **programmable logic** device used to implement combinational **logic** circuits. The PLA has a set of **programmable** AND gate planes, which link to a set of **programmable** OR gate planes, which can then be conditionally complemented to produce an output.