**CS302 GDB Fall 2022**

**Solution:**

As a team lead member and according to the above scenario, I will prefer the ***Programmable Array Logic (PAL)*** which can be use to design the above stated Elevator Control Panel with minimum resources and available knowledge while considering the following constraints:

* Flexibility.
* Switching speed.
* No. of switch case (functions) can be implemented.

**Programmable Array Logic:**

**Programmable Array Logic (PAL)** is a Programmable Logic Device (PLD) circuit which works almost similar to **Programmable** **Logic** **Array** (**PLA)**. The PAL has been designed to overcome the longer delays and the complex circuitry associated with the PLA due to two programmable arrays.

PAL implies the programmable AND array but fixed OR array unlike PLA. PALs have many inputs and multiple outputs connected through a large number of AND gates and OR gates.

**PAL Advantages:**

* PAL has **faster speed** than PLA.
* PAL is **more readily** available.
* PAL has **less complex** than PLA.
* PAL has **less cost** implementation while PLA is costly and expensive.

**Conclusion:**

So, ***Programmable Array Logic (PAL)*** is best to design the above stated Elevator Control Panel.