Uses gates (mostly AND gates) and implement certain logic

A decoder is a building block that takes a binary integer with n size as an input

* Decodes that binary and correlates it to the corresponding output
* Unique output for every input combination

**Bottom is most significant so the input would be 110**

A decoder with an n bi input has 2^n outputs

An encoder is the opposite of a decoder

Enables: exactly one output is active at the same time (isn’t decoder or encoder, it’s a separate switch)

* May not be desirable to always have an active output
* Add an extra input called an enable that can independently force all the outputs to their inactive values (the enable can be 1 or 0; if it’s 0 then all other outputs are 0, if it’s 1, then outputs will be as they usually are)