MSI Converter Types

Comparitors: Compare two n-bit binary strings, A & B
- Output A=B is active when the strings are identical
- Output A>B is active when the magnitude (numerical value) of A is **greater** than the magnitude of B (or the magnitude of B is less than A)
- Output A<B is active when the magnitude (numerical value) of A is **less** than the magnitude of B (or the magnitude of B is greater than A)

Decoders: One output is active depending of the numerical value of the input.
- If the input is an n-bit number, there will be 2^n outputs
- There may be an additional one or more "enable" inputs which must be active in order for any output to be active

Encoders: There are 2^n inputs and the numeric code of the active input will appear on the n output lines
- for a priority encoder with more than one input line activated, the code for the highest input will appear on the output.
- There may be an additional one or more "enable" inputs which must be active in order for the outputs to be active

Code Converters: An n-bit code is input and the corresponding x-bit code is output
- There may be an additional one or more "enable" inputs which must be active in order for any output to be active

Multiplexers: one of 2^n inputs is passed on to the data output depending on the n-bit code on the select inputs.
- There may be an additional one or more "enable" inputs which must be active in order for the data output to be active

Deultiplexers: The data on the data input is passed on to one of the 2^n output lines depending on the n-bit code on the select inputs.
- There may be an additional one or more "enable" inputs which must be active in order for the data outputs to be active