Assignment 1

Q.1.a. Differentiate between Minimum and Maximum modes of 8086.

Minimum mode	Maximum mode
1] Here MN/$\overline{MX}$ is connected to Vcc.	Here MN/$\overline{MX}$ is connected to Ground.
2] It is a uniprocessor mode. 8086 is the only processor in the circuit.	It is a multiprocessor mode. Along with 8086, there can be other processors like 8087 and 8089 in the circuit.
3] ALE for the latch is given by 8086.	As there are multiple processors, ALE for the latch is given by 8288 bus controller.
4] $\overline{INTA}$ for interrupt acknowledgement is produced by 8086.	$\overline{INTA}$ for interrupt acknowledgement is produced by 8288 Bus Controller.
5] The circuit is simpler but does not support multiprocessing.	The circuit is more complex but supports multiprocessing.
6] Bus request are grant is handled using HOLD and HLDA signals.	Bus request are grant is handled using $\overline{RQ}$ / $\overline{GT}$ signals.