Moore’s Law refers to the idea that transistor density will double every two years, hence resulting in increasingly higher clock frequencies.

However, Moore’s Law is no longer true. This is due to a few reasons:

1. There is a physical limitation to how small transistors can get, and hence Moore’s Law necessarily has to stop.
2. Increasing transistor density results in greater power requirements, and there is only so much heat that air cooling can dissipate. Since the chip will melt if not properly cooled, there is a resultant limit to transistor density.
3. Related to above, a way of limiting this power wall is to minimize voltage requirements. However, there is a minimum threshold voltage that needs to be met in order for transistors to switch without there being noise, and hence the limitation to how much we can control the voltage swing results in Moore’s Law no longer being true.