VLSI Week 1

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1 P and N Type Silicon

P type silicon involves doping the neutral silicon with negatively charged atoms, the introduced atoms require an electron from one of the surounding silicon atoms. This makes the silicon atom positively charged, creating a mobile positive charge, these are referred to as "holes". Holes move around through stealing their electron from surrounding silicon atoms.

The alternative type of doping is referred to as N-type, in which a negatively charged atom is doped in the silicon, this causes one of the surounding silicon atoms to accept an aditional electron, and become negatively charged. This electron can then be passed around the silicon substrate in order to create charge flow.

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4 Transistor Level Design of Digital Components

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