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| **Title** | 6th homework in the Electric Circuit Theory class by 201923250 |

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**Summarization for sections from 9.5 to 9.7**

The impedance is the opposition to the sinusoidal current flow in the circuit. The impedance is the two-phasor ratio, but it is not a phasor, since it does not fit a sinusoidal varying number.

Reaction X may be either positive or negative. We conclude that if X is positive or capacitive when X is negative, the impedance is inductive. Reciprocal, measured in siemens (S), is the admittance Y. The entry of an entity or a circuit is the ratio between the phenotype and the phenotype voltage. Without the current and voltage laws of Kirchhoff we can not do circuit analysis in the frequency domain. Therefore, we need to express them in the frequency domain.

We will verify that Kirchhoff 's present law works for phasors by following a similar method. Once we demonstrate that the frequency domain holds both KVL and KCL, several things can be easily achieved, including impedance mixture, mesh and nodal analysis, overlaying and source transformation. This means that the sum of the individual entries is the equal admission of a concurrent admission relation. The transformations we have used on the delta to delta and wye to delta are also true for impedances.

**Answers to problems with explanation**



