Chapter 1

Base for a Topology

Definition 1.1. Let (X, τ) be a topological space. Then a class $\mathcal{B} \subseteq \tau$ is a **base** for the topology τ on X if every member of τ can be written as a union of members of $mathcalB$. Equivalently, $U \in \tau$ can be written as $U = \cup_{B \in \mathcal{B}} B$.