presheaf of a topological basis

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Let X be a topological space and let $\mathcal{B}$ be a basis of its topology. We can regard $\mathcal{B}$ as a category with objects being the open sets in $\mathcal{B}$ and arrows/morphisms between $U, V \in \mathcal{B}$ to exists only if $U \subset V$, and where the *only* element of $\mathcal{B}(U, V)$ is the injection map $U \hookrightarrow V$. Let now $\mathcal{C}$ be a complete category, we now define the *presheaf of $\mathcal{C}$-objects over the basis $\mathcal{B}$ of the topology of X* to be a contravariant functor

$$\mathcal{P} : \mathcal{B} \to \mathcal{C}$$