Definition 2.188. [23M] *Let A be a set and $\sim$ an equivalence relation. We denote by*

$$A/\sim$$

the quotient space, that is, the set of all equivalence classes; the ***canonical projection*** *is the map $\pi : A \to A/\sim$ that associates each $x \in A$ with the class $[x] \in A/\sim$.*