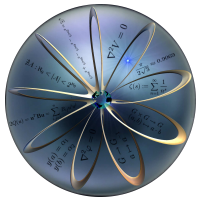

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loop

Canonical name	Loop1
Date of creation	2013-03-22 12:16:21
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A *loop* based at x_0 in a topological space X is simply a continuous map $f : [0, 1] \to X$ with $f(0) = f(1) = x_0$.

The collection of all such loops, modulo homotopy equivalence, forms a group known as the fundamental group.

More generally, the space of loops in X based at x_0 with the compact-open topology, represented by Ω_{x_0}, is known as the loop space of X. And one has the homotopy groups $\pi_n(X, x_0) = \pi_{n-1}(\Omega_{x_0}, \iota)$, where π_n represents the higher homotopy groups, and ι is the basepoint in Ω_{x_0} consisting of the constant loop at x_0.