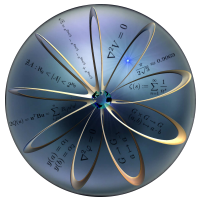

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minimal condition

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A group is said to satisfy the *minimal condition* if every strictly descending chain of subgroups

$$G_1 \supset G_2 \supset G_3 \supset \cdots$$

is finite.

This is also called the *descending chain condition*.

A group which satisfies the minimal condition is necessarily periodic. For if it contained an element x of infinite order, then

$$\langle x \rangle \supset \langle x^2 \rangle \supset \langle x^4 \rangle \supset \cdots \supset \langle x^{2^n} \rangle \supset \cdots$$

is an infinite descending chain of subgroups.

Similar properties are useful in other classes of algebraic structures: see for example the Artinian condition for rings and modules.