



Math for the people, by the people.

procyclic group

Canonical name	ProcylicGroup
Date of creation	2013-03-22 15:09:14
Last modified on	2013-03-22 15:09:14
Owner	alozano (2414)
Last modified by	alozano (2414)
Numerical id	5
Author	alozano (2414)
Entry type	Definition
Classification	msc 20E18
Synonym	pro-cyclic group
Synonym	pro-cyclic
Synonym	procylic

**Definition.** *A group  $G$  is a procyclic group if  $G$  is a profinite group which is isomorphic to the inverse limit of some projective system of cyclic groups.*

**Example.** The <http://planetmath.org/PAdicIntegers>  $p$ -adic integers  $\mathbb{Z}_p$  form a procyclic group since:

$$\mathbb{Z}_p = \varprojlim \mathbb{Z}/p^n \mathbb{Z}.$$