reductive

Canonical name	Reductive
Date of creation	2013-03-22 13:23:49
Last modified on	2013-03-22 13:23:49
Owner	bwebste (988)
Last modified by	bwebste (988)
Numerical id	6
Author	bwebste (988)
Entry type	Definition
Classification	msc 22C05

Let G be a Lie group or algebraic group. G is called *reductive* over a field k if every representation of G over k is completely reducible

For example, a finite group is reductive over a field k if and only if its order is not divisible by the characteristic of k (by Maschke's theorem). A complex Lie group is reductive if and only if it is a direct product of a semisimple group and an algebraic torus.