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Entitled

FINITELY GENERATED MODULES OVER PRINCIPAL IDEAL DOMAINS

by

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<https://eu.bbcollab.com/guest/efb109f212c54cbea780c631e80afc06>

Abstract

This dissertation covers the main theories of modules: modules, submodules, cosets, factor modules, homomorphisms, ideals, direct sums, and some related topics. Using these notions, we prove a theorem on the structure of finitely generated modules over domains of principal ideals. As an application of this theorem, the theory of the structure of normal forms of matrices over various fields is presented.

Keywords: Module, finitely generated module, integral domain, ring, Euclidian ring, principle ideal domain, Jordan normal form, Frobenius normal form.