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Head First Python Nov 30 2019 Ever wished you could learn Python from a book? Head First Python is a complete learning experience for Python that helps you learn the language through a unique method that goes beyond syntax and how-to manuals, helping you understand how to be a great Python programmer. You'll quickly learn the language's fundamentals, then move onto persistence, exception handling, web development, SQLite, data wrangling, and Google App Engine. You'll also learn how to write mobile apps for Android, all thanks to the power that Python gives you. We think your time is too valuable to waste struggling with new.

Synthesis and Control of Discrete Event Systems Jan 31 2020 This book aims at providing a view of the current trends in the development of research on Synthesis and Control of Discrete Event Systems. Papers col lected in this volume are based on a selection of talks given in June and July 2001 at two independent meetings: the Workshop on Synthesis of Concurrent Systems, held in Newcastle upon Tyne as a satellite event of ICATPN/ICACSD and organized by Ph. Darondeau and L. Lavagno, and the Symposium on the Supervisory Control of Discrete Event Systems (SCODES), held in Paris as a satellite event of CAV and organized by B. Caillaud and X. Xie. Synthesis is a generic term that covers all procedures aiming to construct from specifications given as input objects matching these specifications. The ories and applications of synthesis have been studied and developped for long in connection with logics, programming, automata, discrete event systems, and hardware circuits. Logics and programming are outside the scope of this book, whose focus is on Discrete Event Systems and Supervisory Control. The stress today in this field is on a better applicability of theories and algorithms to prac tical systems design. Coping with decentralization or distribution and caring for an efficient realization of the synthesized systems or controllers are of the utmost importance in areas so diverse as the supervision of embedded or man ufacturing systems, or the implementation of protocols in software or in hard ware.

The TKT Course Modules 1, 2 and 3 Jan 05 2023 This is an updated version of 'the' teacher training course for teachers and trainee teachers preparing for the Cambridge ESOL Teaching Knowledge Test (TKT) Modules 1, 2 and 3 or other initial teacher training qualifications.

Topology of Closed One-forms Oct 29 2019 This monograph is an introduction to the fascinating field of the topology, geometry and dynamics of closed one-forms. The subject was initiated by S. P. Novikov in 1981 as a study of Morse type zeros of closed one-forms. The first two chapters of the book, written in textbook style, give a detailed exposition of Novikov theory, which plays a fundamental role in geometry and topology. Subsequent chapters of the book present a variety of topics where closed one-forms play a central role. The most significant results are the following: the solution of the problem of exactness of the Novikov inequalities for manifolds with the infinite cyclic fundamental group; the solution of a problem raised by E. Calabi about intrinsically harmonic closed one-forms and their Morse numbers; and, the construction of a universal chain complex which bridges the topology of the underlying manifold with information about zeros of closed one-forms.This complex implies many interesting inequalities including Bott-type inequalities, equivariant inequalities, and inequalities involving von Neumann Betti numbers. The construction of a novel Lusternik-Schnirelman-type theory for dynamical systems. Closed one-forms appear in dynamics through the concept of a Lyapunov one-form of a flow. As is shown in the book, homotopy theory may be used to predict the existence of homoclinic orbits and homoclinic cycles in dynamical systems ('focusing effect').

Introduction to Singularities Aug 08 2020 This book is an introduction to singularities for graduate students and researchers. It is said that algebraic geometry originated in the seventeenth century with the famous work Discours de la méthode pour bien conduire sa raison, et chercher la vérité dans les sciences by Descartes. In that book he introduced coordinates to the study of geometry. After its publication, research on algebraic varieties developed steadily. Many beautiful results emerged in mathematicians ' works. Most of them were about non-singular varieties. Singularities were considered " bad " objects that interfered with knowledge of the structure of an algebraic variety. In the past three decades, however, it has become clear that singularities are necessary for us to have a good description of the framework of varieties. For example, it is impossible to formulate minimal model theory for higher-dimensional cases without singularities. Another example is that the moduli spaces of varieties have natural compactification, the boundaries of which correspond to singular varieties. A remarkable fact is that the study of singularities is developing and people are beginning to see that singularities are interesting and can be handled by human beings. This book is a handy introduction to singularities for anyone interested in singularities. The focus is on an isolated singularity in an algebraic variety. After preparation of varieties, sheaves, and homological algebra, some known results about 2-dim ensional isolated singularities

are introduced. Then a classification of higher-dimensional isolated singularities is shown according to plurigenera and the behavior of singularities under a deformation is studied.

Designing Courses For Higher Education Apr 27 2022 This book focuses not on teaching techniques but on the strategic decisions which must be made before a course begins. It provides realistic advice for university and college teachers on how to design more effective courses without underestimating the complexity of the task facing course developers, and offers course designers both an understanding and a framework within which to clarify their own teaching purposes.

The TKT Course Apr 03 2020 Language and background to language learning and teaching - Describing language and language skills - Background to language learning - Background to language teaching - Lesson planning and use of resources for language teaching planning and preparing a lesson or sequence of lessons - Selection and use of resources and materials - Managing the teaching and learning process - Teachers' and learners' language in the classroom - Classroom management - TKT module 3 practice test.

Regular and Irregular Holonomic D-Modules Jun 17 2021 A unified treatment of the Riemann-Hilbert correspondence for (not necessarily regular) holonomic D-modules using indsheaves.

A Non-Hausdorff Completion Nov 03 2022 This book introduces entirely new invariants never considered before, in homological algebra and commutative (and even non-commutative) algebra. The C-completion C(M), and higher C-completions, Cn(M), are defined for an arbitrary left module M over a topological ring A. Spectral sequences are defined that use these invariants. Given a left module over a topological ring A, under mild conditions the usual Hausdorff completion: M^ can be recovered from the C-completion C(M), by taking the quotient module by the closure of {0}. The new invariants and tools in this book are expected to be used in the study of p-adic cohomology in algebraic geometry; and also in the study of p-adic Banach spaces — by replacing the cumbersome "complete tensor product" of p-adic Banach spaces, with the more sophisticated "C-complete tensor product", discussed in this book. It is also not unlikely that the further study of these new invariants may well develop into a new branch of abstract mathematics - connected with commutative algebra, homological algebra, and algebraic topology.

Divisor Theory in Module Categories Nov 10 2020 Divisor Theory in Module Categories

Lectures on Algebra Jan 25 2022 This book is a timely survey of much of the algebra developed during the last several centuries including its applications to algebraic geometry and its potential use in geometric modeling. The present volume makes an ideal textbook for an abstract algebra course, while the forthcoming sequel. Lectures on Algebra II, will serve as a textbook for a linear algebra course. The author's fondness for algebraic geometry shows up in both volumes, and his recent preoccupation with the applications of group theory to the calculation of Galois groups is evident in the second volume which contains more local rings and more algebraic geometry. Both books are based on the author's lectures at Purdue University over the last few years.

TRU Mathematics Jul 07 2020

Stable Modules and the D(2)-Problem May 17 2021 This 2003 book is concerned with two fundamental problems in low-dimensional topology. Firstly, the D(2)-problem, which asks whether cohomology detects dimension, and secondly the realization problem, which asks whether every algebraic 2-complex is geometrically realizable. The author shows that for a large class of fundamental groups these problems are equivalent. Moreover, in the case of finite groups, Professor Johnson develops general methods and gives complete solutions in a number of cases. In particular, he presents a complete treatment of Yoneda extension theory from the viewpoint of derived objects and proves that for groups of period four, two-dimensional homotopy types are parametrized by isomorphism classes of projective modules. This book is carefully written with an eye on the wider context and as such is suitable for graduate students wanting to learn low-dimensional homotopy theory as well as established researchers in the field.

Startup Capital Sep 20 2021 Hello, and welcome to this course on Startup Capital. In this course, we're going to cover how to raise capital for your business. This course is divided into 3 modules. 1. Module 1 covers various types of loan options. 2. Module 2 goes over investor capital. 3. Module 3 covers a variety of alternatives. By the time this course is over, you'll know how to effectively find and raise funds for your startup. So, without further ado, let's dive into the first module. OK, guys, welcome to Module 1. In this module, our expert will give us an overview of bank loans. So get ready to take some notes. And let's jump right in.

D-Modules and Spherical Representations. (MN-39) Jul 19 2021 The theory of D-modules deals with the algebraic aspects of differential equations. These are particularly interesting on homogeneous manifolds, since the infinitesimal action of a Lie algebra consists of differential operators. Hence, it is possible to attach geometric invariants, like the support and the characteristic variety, to representations of Lie groups. By considering D-modules on flag varieties, one obtains a simple classification of all irreducible admissible representations of reductive Lie groups. On the other hand, it is natural to study the representations realized by functions on pseudo-Riemannian symmetric spaces, i.e., spherical representations. The problem is then to describe the spherical representations among all irreducible ones, and to compute their multiplicities. This is the goal of this work, achieved fairly completely at least for the discrete series representations of reductive symmetric spaces. The book provides a general introduction to the theory of D-modules on flag varieties, and it describes spherical D-modules in terms of a cohomological formula. Using microlocalization of representations, the author derives a criterion for irreducibility. The relation between multiplicities and singularities is also discussed at length. Originally published in 1990. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy

Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Grasps Arabic Grammar 1 Oct 02 2022 Who should read this Book? 1. The reader have no prior knowledge and has some skills and ability to read the Arabic words 2. Some basic reading ability before purchasing this book 3. Suitable for degree students, aspiring journalist, translators. 4. Able to read Arabic newspapers Features of Grammar Arabic book large Arabic fonts Transliteration line per line for easy reading Translated to English easy arabic grammar What's the benefit of acquiring Arabic grammar skills? 1.The book describe some basic concepts and rules with lots of example, consists of transliteration and translated to English designed to support non Arabic learners. 2. The Arabic learner will understand basic fundamentals of the Arabic sentences and able to follow and apply rules. 3. For person interested to work as translator or interpreter in a Hospital or embassy, may find this basic book an essential to understand Arabic. 4. The most important about this Arabic Grammar book is to practice in writing and read aloud so as to boost your knowledge with actual Arabic skills and translation application. Contents of this Arabic Grammar 1 book: 1Demonstratives 2Relatives 3Prepositions 4Question Tools 5Negation Tools 6Exceptions 7Adjectives 8Kana & its sisters 9Enna & its sisters 10The Past Tense Features of this hand book: 1. size: A5 that is 5.5" x 8.5" 2. easy and handy to carry anywhere 3. Lots of exercises, and loaded with answer sheets 4. English Translation 5. Glossary

Motives Jan 13 2021 Motives were introduced in the mid-1960s by Grothendieck to explain the analogies among the various cohomology theories for algebraic varieties, to play the role of the missing rational cohomology, and to provide a blueprint for proving Weil's conjectures about the zeta function of a variety over a finite field. Over the last ten years or so, researchers in various areas--Hodge theory, algebraic K-theory, polylogarithms, automorphic forms, L-functions, ℓ-adic representations, trigonometric sums, and algebraic cycles--have discovered that an enlarged (and in part conjectural) theory of ``mixed'' motives indicates and explains phenomena appearing in each area. Thus the theory holds the potential of enriching and unifying these areas. This is the second of two volumes containing the revised texts of nearly all the lectures presented at the AMS-IMS-SIAM Joint Summer Research Conference on Motives, held in Seattle, in 1991. A number of related works are also included, making for a total of forty-seven papers, from general introductions to specialized surveys to research papers.

Theory of Finite Simple Groups Jun 29 2022 The first representation theoretic and algorithmic approach to the theory of abstract finite simple groups.

Introduction to Vertex Operator Superalgebras and Their Modules Dec 12 2020 This book presents a systematic study on the structures of vertex operator superalgebras and their modules. Related theories of self-dual codes and lattices are included, as well as recent achievements on classifications of certain simple vertex operator superalgebras and their irreducible twisted modules, constructions of simple vertex operator superalgebras from graded associative algebras and their anti-involutions, self-dual codes and lattices. Audience: This book is of interest to researchers and graduate students in mathematics and mathematical physics.

Extending Modules Dec 04 2022 Module theory is an important tool for many different branches of mathematics, as well as being an interesting subject in its own right. Within module theory, the concept of injective modules is particularly important. Extending modules form a natural class of modules which is more general than the class of injective modules but retains many of its desirable properties. This book gathers together for the first time in one place recent work on extending modules. It is aimed at anyone with a basic knowledge of ring and module theory.

Content Marketing May 05 2020 Hello, and welcome to this course on Content Marketing. In this course, we'll show you how to expand your reach with the power of content. This course is divided into three modules. Module 1 will give you a brief overview of content marketing, Module 2, we'll cover some content marketing tips, tactics and strategies, and Module 3 goes over useful content marketing tools. By the time this course is over, you'll know how to leverage content marketing to bring more customers into your business. So, without further ado, let's dive into the first module. Okay guys, welcome to Module 1, in this module, our trainer will give you a brief overview of content marketing. So, get ready to take some notes and let's jump right in.

Crystallographic Groups and Their Generalizations Jan 01 2020 This volume contains articles written by the invited speakers and workshop participants from the conference on 'Crystallographic Groups and Their Generalizations', held at Katholieke Universiteit Leuven, Kortrijk (Belgium). Presented are recent developments and open problems. Topics include the theory of affine structures and polynomial structures, affine Schottky groups and crooked tilings, theory and problems on the geometry of finitely generated solvable groups, flat Lorentz 3-manifolds and Fuchsian groups, filiform Lie algebras, hyperbolic automorphisms and Anosov diffeomorphisms on infra-nilmanifolds, localization theory of virtually nilpotent groups and aspherical spaces, projective varieties, and results on affine appartment systems. Participants delivered high-level research mathematics and a discussion was held forum for new researchers. The survey results and original papers contained in this volume offer a comprehensive view of current developments in the field.

Algebras, Rings and Modules Sep 01 2022 The text of the first volume of the book covers the major topics in ring and module theory and includes both fundamental classical results and more recent developments. The basic tools of investigation are methods from the theory of modules, which allow a very simple and clear approach both to classical and new results. An unusual main feature of this book is the use of the technique of quivers for studying the structure of rings. A considerable part of the first volume of the book is devoted to a study of special classes of rings and algebras, such as serial rings, hereditary rings, semidistributive rings and tiled orders. Many results of this text until now have been available in journal articles only. This book is aimed at graduate and post-graduate students and for all mathematicians who use

algebraic techniques in their work. This is a self-contained book which is intended to be a modern textbook on the structure theory of associative rings and algebras and is suitable for independent study.

Proceedings of the International Conference on Algebra 2010 May 29 2022 This volume is an outcome of the International Conference on Algebra in celebration of the 70th birthday of Professor Shum Kar-Ping which was held in Gadjah Mada University on 7OCo10 October 2010. As a consequence of the wide coverage of his research interest and work, it presents 54 research papers, all original and referred, describing the latest research and development, and addressing a variety of issues and methods in semigroups, groups, rings and modules, lattices and Hopf Algebra. The book also provides five well-written expository survey articles which feature the structure of finite groups by A Ballester-Bolinches, R Esteban-Romero, and Yangming Li; new results of GrAbner-Shirshov basis by L A Bokut, Yuqun Chen, and K P Shum; polygroups and their properties by B Davvaz; main results on abstract characterizations of algebras of n-place functions obtained in the last 40 years by Wieslaw A Dudek and Valentin S Trokhimenko; Inverse semigroups and their generalizations by X M Ren and K P Shum. Recent work on cones of metrics and combinatorics done by M M Deza et al. is included."

Journal of Physics A Feb 23 2022

Classifying the Absolute Toral Rank Two Case Sep 28 2019 The problem of classifying the finite-dimensional simple Lie algebras over fields of characteristic p > 0 is a long-standing one. Work on this question during the last 35 years has been directed by the Kostrikin–Shafarevich Conjecture of 1966, which states that over an algebraically closed field of characteristic p > 5 a finite-dimensional restricted simple Lie algebra is classical or of Cartan type. This conjecture was proved for p > 7 by Block and Wilson in 1988. The generalization of the Kostrikin–Shafarevich Conjecture for the general case of not necessarily restricted Lie algebras and p > 7 was announced in 1991 by Strade and Wilson and eventually proved by Strade in 1998. The final Block–Wilson–Strade–Premet Classification Theorem is a landmark result of modern mathematics and can be formulated as follows: Every finite-dimensional simple Lie algebra over an algebraically closed field of characteristic p > 3 is of classical, Cartan, or Melikian type. This is the second volume by the author, presenting the state of the art of the structure and classification of Lie algebras over fields of positive characteristic, an important topic in algebra. The contents is leading to the forefront of current research in this field.

Invariant Theory in All Characteristics Sep 08 2020 This volume includes the proceedings of a workshop on Invariant Theory held at Queen's University (Ontario). The workshop was part of the theme year held under the auspices of the Centre de recherches mathematiques (CRM) in Montreal. The gathering brought together two communities of researchers: those working in characteristic 0 and those working in positive characteristic. The book contains three types of papers: survey articles providing introductions to computational invarianttheory, modular invariant theory of finite groups, and the invariant theory of Lie groups; expository works recounting recent research in these three areas and beyond; and open problems of current interest. The book is suitable for graduate students and researchers working in invarianttheory.

Coding Theory and Applications Oct 22 2021 This book constitutes the refereed proceedings of the 2nd International Castle Meeting, ISMCTA 2008, Castillo de la Mota, Medina del Campo, Spain, September 2008. The 14 full papers and 5 invited papers presented were carefully reviewed and selected from 34 submissions for inclusion in the book. The papers cover network coding, quantum codes, group codes, codes and combinatorial structures, agebraic-geometry codes, as well as codes and applications.

A Singular Introduction to Commutative Algebra Feb 11 2021 This substantially enlarged second edition aims to lead a further stage in the computational revolution in commutative algebra. This is the first handbook/tutorial to extensively deal with SINGULAR. Among the book ' s most distinctive features is a new, completely unified treatment of the global and local theories. Another feature of the book is its breadth of coverage of theoretical topics in the portions of commutative algebra closest to algebraic geometry, with algorithmic treatments of almost every topic.

Flag Varieties Nov 22 2021 This book discusses the importance of flag varieties in geometric objects and elucidates its richness as interplay of geometry, combinatorics and representation theory. The book presents a discussion on the representation theory of complex semisimple Lie algebras, as well as the representation theory of semisimple algebraic groups. In addition, the book also discusses the representation theory of symmetric groups. In the area of algebraic geometry, the book gives a detailed account of the Grassmannian varieties, flag varieties, and their Schubert subvarieties. Many of the geometric results admit elegant combinatorial description because of the root system connections, a typical example being the description of the singular locus of a Schubert variety. This discussion is carried out as a consequence of standard monomial theory. Consequently, this book includes standard monomial theory and some important applications—singular loci of Schubert varieties, toric degenerations of Schubert varieties, and the relationship between Schubert varieties and classical invariant theory. The two recent results on Schubert varieties in the Grassmannian have also been included in this book. The first result gives a free resolution of certain Schubert singularities. The second result is about certain Levi subgroup actions on Schubert varieties in the Grassmannian and derives some interesting geometric and representation-theoretic consequences.

Structure of the Standard Modules for the Affine Lie Algebra A1 Superscript (1) Aug 27 2019 The affine Kac-Moody algebra $A_1^{(1)}$ has recently served as a source of new ideas in the representation theory of infinite-dimensional affine Lie algebras. In particular, several years ago it was discovered that $A_1^{(1)}$ and then a general class of affine Lie algebras could be constructed using operators related to the vertex operators of the physicists' string model. This book develops the calculus of vertex operators to solve the problem of constructing all the standard $A_1^{(1)}$-modules in the homogeneous realization. Aimed primarily at researchers in and students of Lie theory, the book's detailed and concrete exposition makes it accessible and illuminating even to relative newcomers to the field.

Algebra 3 Dec 24 2021 This book, the third book in the four-volume series in algebra, deals with important topics in homological algebra, including abstract theory of derived functors, sheaf co-homology, and an introduction to etale and l-adic co-homology. It contains four chapters which discuss homology theory in an abelian category together with some important and fundamental applications in geometry, topology, algebraic geometry (including basics in abstract algebraic geometry), and group theory. The book will be of value to graduate and higher undergraduate students specializing in any branch of mathematics. The author has tried to make the book self-contained by introducing relevant concepts and results required. Prerequisite knowledge of the basics of algebra, linear algebra, topology, and calculus of several variables will be useful.

Algebraic Number Theory Jun 05 2020 From the reviews of the first printing, published as Volume 62 of the Encyclopaedia of Mathematical Sciences: "... The author succeeded in an excellent way to describe the various points of view under which Class Field Theory can be seen. ... In any case the author succeeded to write a very readable book on these difficult themes." Monatshefte fuer Mathematik, 1994 "... Koch's book is written mostly for non-specialists. It is an up-to-date account of the subject dealing with mostly general questions. Special results appear only as illustrating examples for the general features of the theory. It is supposed that the reader has good general background in the fields of modern (abstract) algebra and elementary number theory. We recommend this volume mainly to graduate studens and research mathematicians." Acta Scientiarum Mathematicarum, 1993

Representation Theory and Beyond Jul 31 2022 This volume contains the proceedings of the Workshop and 18th International Conference on Representations of Algebras (ICRA 2018) held from August 8–17, 2018, in Prague, Czech Republic. It presents several themes of contemporary representation theory together with some new tools, such as stable ∞ ∞-categories, stable derivators, and contramodules. In the first part, expanded lecture notes of four courses delivered at the workshop are presented, covering the representation theory of finite sets with correspondences, geometric theory of quiver Grassmannians, recent applications of contramodules to tilting theory, as well as symmetries in the representation theory over an abstract stable homotopy theory. The second part consists of six more-advanced papers based on plenary talks of the conference, presenting selected topics from contemporary representation theory: recollements and purity, maximal green sequences, cohomological Hall algebras, Hochschild cohomology of associative algebras, cohomology of local selfinjective algebras, and the higher Auslander–Reiten theory studied via homotopy theory.

Rings, Groups, and Algebras Mar 27 2022 "Integrates and summarizes the most significant developments made by Chinese mathematicians in rings, groups, and algebras since the 1950s. Presents both survey articles and recent research results. Examines important topics in Hopf algebra, representation theory, semigroups, finite groups, homology algebra, module theory, valuation theory, and more."

The Official DVSA Theory Test for Car Drivers Oct 10 2020 This publication is the official theory test book for car drivers, compiled by the Driver and Vehicle Standards Agency. It contains multiple choice questions from the whole theory test question bank, with answers and explanations, dealing with topics such as: alertness and attitude, vehicle safety and handling, safety margins, hazard awareness, vulnerable road users, motorway rules and rules of the road, road and traffic signs, documents, accidents, and vehicle loading.

LUCAS Associative Array Processor Mar 15 2021 After historical introduction, the aspiration technique and imaging modalities are described. Thereafter, the use of aspiration cytology in the diagnosis and mainly in the sta- ging of urologic cancers is on still not well known appli- cations of the procedure in the staging of some organs (bladder, adrenals, penis, testis and secondary ureteral strictures) are reported.

National Academy Science Letters Apr 15 2021

Categories and Representation Theory Aug 20 2021 This book gives a self-contained account of applications of category theory to the theory of representations of algebras. Its main focus is on 2-categorical techniques, including 2-categorical covering theory. The book has few prerequisites beyond linear algebra and elementary ring theory, but familiarity with the basics of representations of quivers and of category theory will be helpful. In addition to providing an introduction to category theory, the book develops useful tools such as quivers, adjoints, string diagrams, and tensor products over a small category; gives an exposition of new advances such as a 2-categorical generalization of Cohen-Montgomery duality in pseudo-actions of a group; and develops the moderation level of categories, first proposed by Levy, to avoid the set theoretic paradox in category theory. The book is accessible to advanced undergraduate and graduate students who would like to study the representation theory of algebras, and it contains many exercises. It can be used as the textbook for an introductory course on the category theoretic approach with an emphasis on 2-categories, and as a reference for researchers in algebra interested in derived equivalences and covering theory.

Speak Up N' 2007 Ed. Mar 03 2020