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Literature for Basic Algebraic Structures

It is not so easy to give good recommendations for the algebra part of the foundations. The following is rather preliminary.
As a general guide-line let me recommend books on **Linear Algebra** as a first starting point. Normally there the basic definitions on groups, rings, fields can be found. For more detailed information one has to get informations out of books on **Algebra**. But typically these books contain much more than the material of relevance for the course.

1. Fischer, Gerd: Lineare Algebra, vieweg studium, is not expensive, but unfortunately it is in German. Of special relevance are the pages 32–74, but also the basic definitions related to vector spaces (75–163)

2. van der Waerden, Algebra I, Springer (this book is in German, but there is also an English translation.) This is a classics. Not too difficult to read.

3. Wüstholz, Gisbert: Algebra für Studierende der Mathematik, Physik und Informatik, vieweg studium (only in German).

4. Lang, Serge: Algebra, Springer (English) In some sense a standard book, but contains much more than is needed here.

5. Joseph Grifone, Algèbre linéaire, Cépaduès-éditions, Toulouse (this book is in French)

6. Victor Shoup: A computational introduction to number theory and algebra, (also online available at http://shoup.net/ntb)

7. W. Lüttkebohmert: Codierungstheorie, vieweg, 2003 (in German)

8. Kurt-Ulrich Witt: Algebraische Grundlagen der Informatik, Vieweg (this book contains more or less everything we need for the lecture, but it is in German - and I spotted some small errors.)

If I will find further information I will update this list.

The web-page of the course:
`http://math.uni.lu/schlichenmaier/cours/mics`