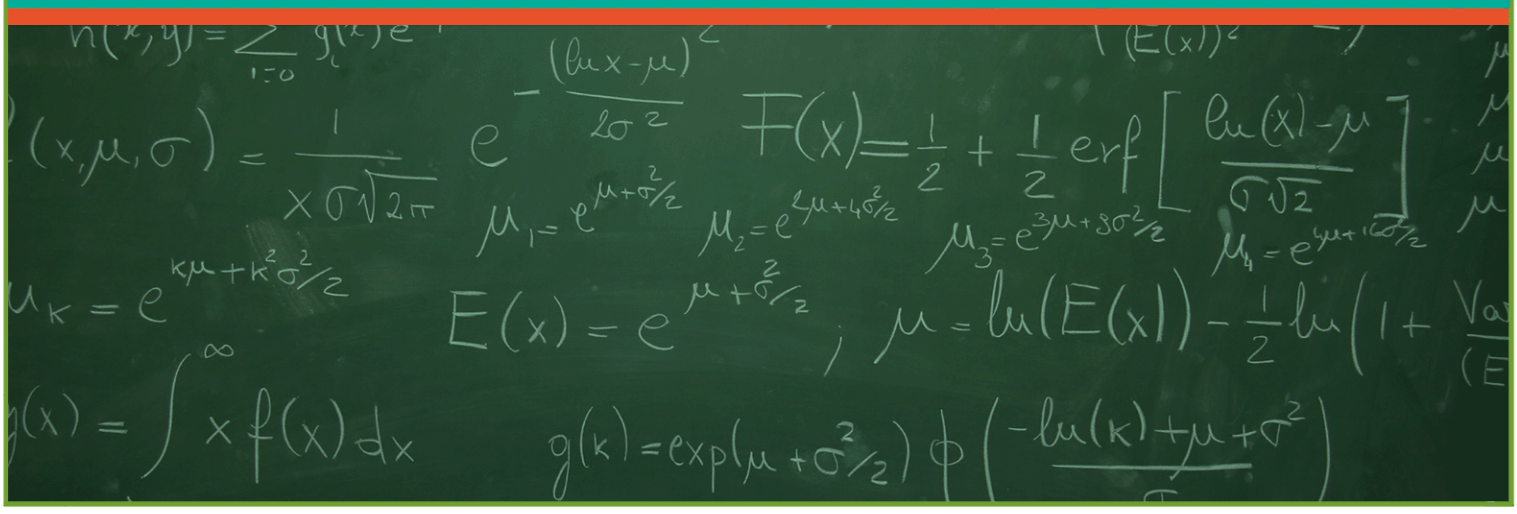
INDEXING GUIDELINES

for

SIAM Authors



INDEXING GUIDELINES FOR SIAM AUTHORS

An index is a necessary part of every book. It serves as an essential guide for the reader, enabling him or her to access the book's contents in an organized and streamlined way. The index may be the first and only thing a person looks at when deciding whether to buy your book. A good index should be considerably more detailed than an alphabetical expansion of the table of contents, but it shouldn't be an alphabetical concordance of words and phrases created by tagging the text file with no thought for the interrelationships of concepts.

Despite the obvious temptation to do so, we strongly recommend that you do not compile the index as you're writing the text. Once the book is complete, relationships between concepts and statements become more obvious. Remember, you're striving for more than an alphabetical listing of key words with page numbers. It's also considerably easier to create an index consistent in structure and terminology if you wait until the book is complete.

A good index enables the reader to find every pertinent statement made in a book. Create your index with the reader in mind. Remember that although as the author you have a clear picture of the relative importance of the concepts in your book, the reader may not. Subheadings and cross-references are valuable parts of every index. Use of these tools will enable any reader to find the desired information quickly and accurately. A good index points the reader to sections where he or she may not have originally looked for a given topic.

MakeIndex

These guidelines occasionally refer to the MakeIndex program. MakeIndex allows you to tag words and phrases in LaTeX files to create index entries. General tagging guidelines are included at the end of these instructions. More complete instructions come with the program, which is available at http://www.ctan.org/pkg/makeindex.

What to Index

All information directly relevant to the book's subject and of interest to the reader is indexable. It's necessary for you to distinguish between what is relevant and what is peripheral. Making this distinction correctly is the mark of a good index. It's also important that you not overlook implicit information that should be included when compiling your index. In high-level math books, general concepts are often implied rather than implicitly stated; however, they may be necessary organizing factors that are crucial to a good index.

Most of the frontmatter of a book (title page, dedication, acknowledgments, and so on) should not be indexed. The preface should be indexed only if it contains information about the book's topic and not just about how the book came to be written. The book's introduction is usually indexable. Appendices should be indexed if they contain important material omitted for the main body of the text. Other backmatter such as a glossary or bibliography should not be indexed.

Tables, Figures, and Footnotes

Tables, figures, and footnotes should be indexed if they continue or amplify discussions in the text. If a table or figure falls on the same page as the text that discusses it, it may be unnecessary to include a specific reference to the table or figure.

Page locators of figures, tables, and footnotes should be differentiated from regular page numbers by the use of t, f, or n, respectively, following the number. (See the section on page numbers.)

Choosing Index Entries

An entry is the principal subdivision of an index. It consists of a heading, which identifies the subject of the entry, and a locator, which is usually the page number(s) on which to find material pertaining to the subject.

Always keep the reader's needs and perspective in mind when choosing topics for index entries. The following questions should be kept in mind when creating index entries:

1. Is the reader likely to look for this information in the index?
2. What is the most significant word in this discussion?
3. What other information is the reader likely to want to find?
4. Are there synonymous terms that the reader is likely to use? If the reader can't find the term in the index, he or she may assume that the topic is not covered in the book.

Headings in Your Index

Your index will contain both main headings and subheadings, just as the chapters contain a hierarchy of headings. Main headings should reflect the concepts in the text and terms that the reader is most likely to look up. Main headings should be nouns or nouns preceded by adjectives. A main heading should never be an adjective or adverb standing alone.

SIAM prefers that each main heading begin with a lower-case letter unless the word is a proper noun.

When creating main headings it's important to invert the wording so that the keyword—the word the reader is most likely to look under—appears first in the phrase. A comma should be used to separate a heading from its qualifying phrase:

USE: files, copying of, 62

NOT: copying files, 62

In this example the reader is unlikely to look under Copying for the necessary information. Judgment is needed here, however. Don't unnecessarily invert accepted terminology:

USE: number theory, 55

NOT: theory, number, 55

Note that there is no punctuation at the end of an index entry.

Page Numbers

In general, you should not have a string of more than 5 individual page locators after a heading. Use subheadings to break these down and provide specific information about the topic. (See the section on subheadings.)

Page numbers are listed in ascending order, with the lowest number first.

Page numbers should be separated from the heading by a comma. Commas should also be used between individual numbers or ranges of numbers.

dynamical systems, 491, 496–515

When discussion of a topic continues for more than one page, the range of pages should be given. Page numbers should be given inclusively, separated by an en-dash, not a hyphen (i.e., 33–39, 172–176). The full sequence of numbers should be used; don't truncate the page range to 33–9, 172–76, or 172–6. Don't use the abbreviations f., ff., or et seq. in the index. Always give the full sequence of pages. Subheadings should be used to break down long page ranges. (See the section on subheadings.)

Page numbers for tables, figures, and footnotes should be differentiated from those for regular text. Use a t following the page number for tables, an f following the page number for figures, and an n following the page number for footnotes.

input devices, 53, 54t, 56f

(MakeIndex allows you to define certain character strings to correspond to specially formatted page numbers, such as those followed by letters. See the MakeIndex instructions for a detailed explanation.)

Subheadings

As stated earlier, when there are more than 5 page locators for a heading, subheadings should be added. Every subheading must have a logical relationship with its main heading. Often there is a grammatical relationship as well; that is, you can "read back" from the subheading to the heading:

dynamical systems

backpropagation of, 496

control of, 493, 502–512

in generalized neural networks, 502–512

Subheadings should begin with lowercase letters.

Often subheadings represent subdivisions or more specific aspects of the main heading, as the "dynamical systems" example shows.

Subheadings can also be action oriented:

files

copying, 52

creating, 10–12

deleting, 43

editing, 35–38

moving, 88

Subentries also present related aspects of the main heading.

When creating subentries, you should use connectives to clarify the meaning of entries:

USE: slides

number of, 233–235

NOT: slides

number, 233–234

In the incorrect example the reader won't be able to determine whether the discussion is about how to number the slides or about how many slides there are.

Unless doing so results in awkwardness, place the connective last so that the important terms come first.

Prepositions, articles, and connectives are traditionally ignored in alphabetizing. (See the section on Alphabetizing the Index.)

Sometimes to adequately do justice to a topic you must include in the index broad main headings with specific subentries. In this case the subentries should also appear as main headings:

factorizations

Edson, 220

Hartley, 225

rader, 211

split radix, 116

Winograd, 201–202

and

Edson factorizations, 220

Hartley factorizations, 225

and so on. This is referred to as double posting the entries. Double posting can eliminate the need for extensive cross-references. (See the section on Cross-references.) However, double posting does add lines to the index. It should be used judiciously and only when necessary for clarity and thoroughness.

The use of subentries can become excessive. Consider whether the subheading you're introducing really serves to amplify the main heading. A list of subentries that all have the same page number should be condensed.

combinatorial matrix

algebra, 14

defined, 14

theory, 14

This type of setup provides the reader with no additional useful information. An index is not an outline of the material in the book. These entries should be condensed as "Combinatorial matrix, 14."

Subsubheadings

Sometimes it may be necessary to add subsubheadings for additional clarity. Levels below subsubheadings should be avoided. (It's not possible to create levels beyond subsubentries using MakeIndex.)

dynamical systems

control of

adaptive, 506

simulation results, 507

Style of Subheadings

Each subheading should begin a new line in the index and be indented under the main heading to which it refers. Don't run subheadings in with main headings. Subsubheadings indent an additional amount of space.

Cross-References

"See" cross-references

Cross-references should be used for synonymous terms, similar terms, reversal terms, and expanded terms. The style for a cross-reference is

programs, *see* software

Note that the word "see" should be in italics, separated from the main heading by a comma. (This style is the default setting when running MakeIndex in LaTeX.)

In this example, all information on the subject is found under software and none under programs. If there are only a few page numbers with software, however, it may be better to repeat them under programs rather than sending the reader flipping through the index to find only 2 or 3 pages listed.

A cross-reference to a subheading must contain both the main heading and the subheading, with a comma separating the two:

word processors, *see* software, word processing

"See also" cross-references

A "see also" cross-reference is used when additional information about a topic can be found under other headings in the index. It should be used only when some page numbers are given with the present heading. Not that the words "see also" should appear in italics, separated from the main heading by a comma.

computers, *see also* hardware

evolution of, 86

mainframe, 88

Don't use a "see also" reference when going to the other entry doesn't provide any additional information (i.e., when the page numbers or subheadings are the same). Also, don't create cross-references to a term that simply provides additional cross-references.

Author Indexes

Sometimes it's helpful for the reader to have an index of the authors whose work is cited in your book. This may be a separate index or the names may be included as part of the main index. Judgment is needed here; if the reference lists are alphabetical, the value of such an index is reduced unless you also include page numbers for the places where the references are cited. If the reference lists are numbered, however, the reader may find an author index useful when looking for the work of a particular author.

When indexing proper names, the name should be inverted, and a comma used to separate the last name from the initials.

Golub, G. H., 42, 56, 102

Alphabetizing the Index

There are two basic systems of alphabetizing an index: the letter-by-letter system and the word-by-word system. Examples of both styles are given. SIAM will accept indexes alphabetized using either system.

Letter-by-Letter System

In the letter-by-letter system, alphabetization continues across the spaces between words. Words are alphabetized up to the first comma or parenthesis. Hyphens, slashes, apostrophes, and serial commas are ignored when alphabetizing.

New, Arthur

New, Zoe

newborn

newcomer

New Deal

new economics

new-fashioned

news, lamentable

news conference

newt

New Testament

Word-by-Word System

In the word-by-word system, alphabetization is interrupted at the end of the first word. Subsequent words are considered only when two or more headings begin with the same word. Hyphens, slashes, and apostrophes are ignored, and the word is treated as one word.

New, Arthur

New Deal

new economics

New Testament

New, Zoe

newborn

newcomer

new-fashioned

news conference

news, lamentable

Newt

Terms with Numbers, Greek Letters, or Math Characters

Terms that include Greek letters or mathematical characters should be alphabetized as if the letter or character were spelled out.

Terms that either begin with or include numbers should be alphabetized as if the number were spelled out if they occur alone. If these terms occur as part of a series or list (i.e., Level 1, Level 2, etc.), they should be arranged in numeric order. (If you are using MakeIndex, the instructions explain how to influence the alphabetization of terms.)

Prepositions, Articles, and Connectives

Prepositions, articles, and connectives that occur at the beginning of a subentry are traditionally ignored in alphabetizing. (If you're using MakeIndex, you can structure your entries so that these introductory words are ignored. The MakeIndex instructions explain how to do this.) However, for now SIAM will accept indexes in which these words are not ignored.

Editing the Index

Once you've made all the entries, the index should be checked for consistency, accuracy, clarity, and conciseness. (When running MakeIndex you should check the .ind file.) Check for spelling error, typos, and inconsistent wording. Tighten up the wording wherever you can; entries should be as concise as possible.

If you've used reversed entries, check to make sure the wording is the same. If you have

word-processing software, 15, 77–78, 91

you should have under the reversal

software

word-processing, 15, 77–78, 91

Combine subheadings that are synonymous.

Check to make sure that the wording of each cross-reference exactly matches the heading in the index. For example, if you're referring a reader to "programs," the heading should be "programs," not "program(s)" or "programming."

Check to make sure that you've used the same alphabetization system throughout the index.

When running MakeIndex, check to make sure that all cross-references and subheadings have been properly combined and that main headings are not repeated.

Tagging Guidelines

These guidelines are for tagging use with the MakeIndex program in LaTeX. General examples are included here. Please contact SIAM if you need more information.

To include the heading, "files, copying of" in an index created by MakeIndex, you should attach the index command

\index{files, copying of}

to the phrase "copying files" in your LaTeX file. The page number will be added automatically. Note that "files" begins with a lowercase letter.

To create the entry “dynamical systems, 491, 496–515” and indicate a range of pages, your tagging is as follows:

on p. 491: \index{dynamical systems}

on p. 496: \index{dynamical systems|(}

on p. 515: \index{dynamical systems|)}

Note the use of open and close parentheses to indicate the starting and ending page numbers of the range.

To create the entry and subentries

dynamical systems

backpropagation of, 496

control of, 493

your tagging is as follows:

on p. 493: \index{dynamical systems!control of}

on p. 496: \index{dynamical systems! backpropagation of}

To create subsubentries to

dynamical systems

control of

you tag entries as follows:

\index{dynamical systems!control of!adaptive}

\index{dynamical systems!control of!simulation results}

Tagging for “see” cross-references is as follows:

\index{word processors|see{software, word processing}}

Tagging for “see also” cross-references is as follows:

\index{computers|see also{hardware}}

To create bold

bulldog, 3, **10**

you tag entries as follows:

\index{bulldog|textbf}

To create special formatting

α

you tag entries as follows:

\index{alpha@\alpha}

To create special characters

Münster

you tag entries as follows:

\index{Munster@M\"{u}nster}

The word *before* the @ is how LaTeX *alphabetizes* the term

The word *after* the @ is how LaTeX *formats* the term

After the book is complete and you've finished tagging the index entries, you should proofread the text manuscript again, since typographical errors and errors in spacing may have been introduced.