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Nuclear Reactor Core Methods

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PWR	Pressurized Water Reactor
BWR	Boiling Water Reactor
ANM	Analytic Nodal Method

Part I

Fundamentals

Lorem ipsum...

Chapter 1

Chapter Heading

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Use the standard `equation` environment to typeset your equations, e.g.

$$a \times b = c, \quad (1.1)$$

however, for multiline equations we recommend to use the `eqnarray` environment¹.

$$\begin{array}{l} a \times b = c \\ \mathbf{a} \cdot \mathbf{b} = \mathbf{c} \end{array} \quad (1.2)$$

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1. Livelihood and survival mobility are oftentimes coutcomes of uneven socioeco-
nomic development.
 - a. Livelihood and survival mobility are oftentimes coutcomes of uneven socioe-
conomic development.
 - b. Livelihood and survival mobility are oftentimes coutcomes of uneven socioe-
conomic development.
2. Livelihood and survival mobility are oftentimes coutcomes of uneven socioeco-
nomic development.

Subparagraph Heading

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- Livelihood and survival mobility are oftentimes coutcomes of uneven socioeco-
nomic development, cf. Table 1.1.
 - Livelihood and survival mobility are oftentimes coutcomes of uneven socioe-
conomic development.
 - Livelihood and survival mobility are oftentimes coutcomes of uneven socioe-
conomic development.
- Livelihood and survival mobility are oftentimes coutcomes of uneven socioeco-
nomic development.

Fig. 1.1 If the width of the figure is less than 7.8 cm use the `sidecaption` command to flush the caption on the left side of the page. If the figure is positioned at the top of the page, align the sidecaption with the top of the figure – to achieve this you simply need to use the optional argument `[t]` with the `sidecaption` command

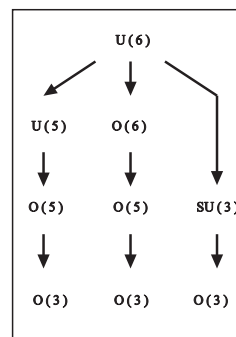
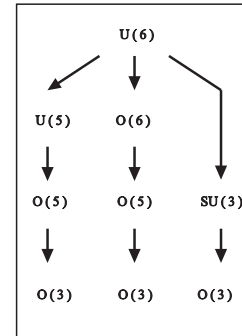


Fig. 1.2 Please write your figure caption here



Run-in Heading Boldface Version Use the \LaTeX automatism for all your cross-references and citations as has already been described in Sect. 1.2.

Run-in Heading Italic Version Use the \LaTeX automatism for all your cross-references and citations as has already been described in Sect. 1.2.

Table 1.1 Please write your table caption here

Classes	Subclass	Length	Action Mechanism
Translation	mRNA ^a	22 (19–25)	Translation repression, mRNA cleavage
Translation	mRNA cleavage	21	mRNA cleavage
Translation	mRNA	21–22	mRNA cleavage
Translation	mRNA	24–26	Histone and DNA Modification

^a Table foot note (with superscript)

1.3 Section Heading

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Type 1 That addresses central themes pertaining to migration, health, and disease. In Sect. 1.1, Wilson discusses the role of human migration in infectious disease distributions and patterns.

Type 2 That addresses central themes pertaining to migration, health, and disease. In Sect. 1.2.1, Wilson discusses the role of human migration in infectious disease distributions and patterns.

1.3.1 Subsection Heading

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If you want to emphasize complete paragraphs of texts we recommend to use the newly defined Springer class option and environment `svgraybox`. This will produce a 15 percent screened box 'behind' your text.

1.3.1.1 Subsubsection Heading

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Theorem 1.1. *Theorem text goes here.*

Definition 1.1. Definition text goes here.

Proof. Proof text goes here. \square

Paragraph Heading

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Theorem 1.2. *Theorem text goes here.*

Definition 1.2. Definition text goes here.

Proof. Proof text goes here. □

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Appendix

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$$a \times b = c \tag{1.3}$$

Problems

1.1. A given problem or Exercise is described here. The problem is described here. The problem is described here.

1.2. Problem Heading

- (a) The first part of the problem is described here.
- (b) The second part of the problem is described here.

References

In view of the parallel print and (chapter-wise) online publication of your book at www.springerlink.com it has been decided that – as a general rule – references should be sorted chapter-wise and placed at the end of the individual chapters. However, upon agreement with your contact at Springer you may list your references

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References may be *cited* in the text either by number (preferred) or by author/year.³ The reference list should ideally be *sorted* in alphabetical order – even if reference numbers are used for the their citation in the text. If there are several works by the same author, the following order should be used:

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1. Broy, M.: Software engineering — from auxiliary to key technologies. In: Broy, M., Dener, E. (eds.) *Software Pioneers*, pp. 10–13. Springer, Heidelberg (2002)
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⁴ Always use the standard abbreviation of a journal's name according to the *ISSN List of Title Word Abbreviations*, see <http://www.issn.org/en/node/344>

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Appendix A

Chapter Heading

All's well that ends well

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A.1.1 Subsection Heading

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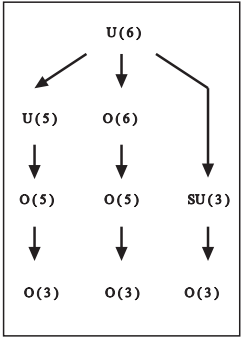
For multiline equations we recommend to use the `eqnarray` environment.

$$\begin{array}{l} \mathbf{a} \times \mathbf{b} = \mathbf{c} \\ \mathbf{a} \times \mathbf{b} = \mathbf{c} \end{array} \quad (\text{A.1})$$

A.1.1.1 Subsubsection Heading

Instead of simply listing headings of different levels we recommend to let every heading be followed by at least a short passage of text. Furtheron please use the

Fig. A.1 Please write your figure caption here



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Table A.1 Please write your table caption here

Classes	Subclass	Length	Action Mechanism
Translation	mRNA ^a	22 (19–25)	Translation repression, mRNA cleavage
Translation	mRNA cleavage	21	mRNA cleavage
Translation	mRNA	21–22	mRNA cleavage
Translation	mRNA	24–26	Histone and DNA Modification

^a Table foot note (with superscript)

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Solutions

Problems of Chapter 1

1.1 The solution is revealed here.

1.2 Problem Heading

(a) The solution of first part is revealed here.

(b) The solution of second part is revealed here.

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