

Chapter I:I (continued)

I. Style Guide

- ❑ First Steps
- ❑ Slide Examples
- ❑ Slide Commands Overview
- ❑ Latex Hints
- ❑ Notation Conventions
- ❑ Figures
- ❑ Lecturenotes Style Test

Notation Conventions

Mathematical Notation

Notation	Element
A, B, C, X	matrices, sets
α, β	functions, logical formulas
\mathcal{C}	sets of sets or matrices
x_1, \dots, x_p	p scalar (feature) variable
$\mathbf{x} \in X$	(feature) vector in set X
p	$ \mathbf{x} $, dimension of (feature) vectors
$c(\mathbf{x})$	target concept
k	number of classes or categories in X
n	$ X $, number of feature vectors in X

Notation Conventions

Mathematical Environments

The numbering for Definitions and Theorems is done with a single (combined) counter 'theorem' for both environments. No numbering for Corollary, Lemma, Proof, Proof Sketch.

```
\setcounter{theorem}{3}
```

Definition 4 (A)

Definition text.

Theorem 5 (B)

Theorem text.

Proof (C)

Proof text.

Definition 6 (D)

Definition text.

Corollary 7 (E)

Corollary text.

Figures

Figures

Adobe Illustrator

- ❑ Start the creation of a new figure with the [empty-slide.ai](#) template, which specifies media size, fonts, and color scheme.
- ❑ Line thickness.
 - 0.75pt standard.
 - 0.5pt in subfigures and as border of filled areas.
 - 0.25 in snapshots.
 - 1pt for grayed-out lines. Gray 40 percent.

Lecturenotes Style Test

Lecturenotes Style Test

Current Options and Dimensions

Input encoding: utf8
Font: nimbus
Aspect ratio: 4:3
Language: american
Legacy: no

Lecturenotes Style Test

Current Options and Dimensions

Input encoding: utf8
Font: nimbus
Aspect ratio: 4:3
Language: american
Legacy: no

paperheight:	496.93pt	174.65mm	54.99ex
textheight:	477.43pt	167.8mm	52.83ex
paperwidth:	662.59pt	232.87mm	38.34em
textwidth:	638.59pt	224.44mm	36.96em
evensidemargin:	12pt	4.22mm	0.69em
topmargin:	4pt	1.41mm	0.23em
baselineskip:	23pt	8.08mm	2.54ex
parskip:	9.2pt	3.23mm	1.02ex
bsparskip:	9.2pt	3.23mm	1.02ex
leftmargin:	43.2pt	15.18mm	2.5em
leftmarginii:	25.92pt	9.11mm	1.5em
leftmarginiv:	17.28pt	6.07mm	1em
leftmarginv:	8.64pt	3.04mm	0.5em
labelsep:	12.96pt	4.55mm	0.75em
labelwidth:	30.24pt	10.63mm	1.75em

Remarks:

- ❑ Be careful when using relative units such as em and ex: The current font is used as reference basis, and changing the family or size will lead to different results.
- ❑ Note that `\parskip` is redefined in different environments, e.g., 1.5pt and 0.0pt within the `itemize` and `minipage` environment respectively.

Lecturenotes Style Test

Listings (itemize)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.

- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
 - Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
 - Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
 - Curabitur dictum gravida mauris.
 - Curabitur dictum gravida mauris.
 - Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna.
 - Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna.
 - Curabitur dictum gravida mauris.
 - Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Lecturenotes Style Test

Listings (enumerate)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.

1. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

2. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

(a) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.

(b) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.

(i) Curabitur dictum gravida mauris.

(ii) Curabitur dictum gravida mauris.

A. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna.

B. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna.

(iii) Curabitur dictum gravida mauris.

(c) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.

3. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Lecturenotes Style Test

Listings with coloritem

`\coloritem[<COLOR>]` changes the color from the current item only and then switches back to the color that was active before.

- ❑ Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- ❑ Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- ❑ Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- ❑ Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- ➔ Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- ❑ Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- ➔ Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- ❑ Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Lecturenotes Style Test

Listings with coloritem (continued)

`\coloritem[<COLOR>]` changes the color from the current item only and then switches back to the color that was active before.

- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- □ Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Lecturenotes Style Test

Listings with coloritem (continued)

Since Latex is a dynamically scoped language, saving and restoring the color works for nested listings as well.

1. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
2. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
 - (a) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
 - (b) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
 - (i) Curabitur dictum gravida mauris.
→ Curabitur dictum gravida mauris.
 - (ii) Curabitur dictum gravida mauris.
 - (c) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
3. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
4. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Lecturenotes Style Test

Listings with coloritem (continued)

Since Latex is a dynamically scoped language, saving and restoring the color works for nested listings as well.

1. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
2. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
 - (a) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
 - (b) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
 - (i) Curabitur dictum gravida mauris.
→ Curabitur dictum gravida mauris.
 - (ii) Curabitur dictum gravida mauris.
 - (c) Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis.
3. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
4. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Lecturenotes Style Test

Listings (numbered lines under `\small`)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.

Lecturenotes Style Test

Skips: normalsize

line

newline

par = bspar0

bspar1

bspar2

bspar3

bspar4

baselineskip:	23pt	8.08mm	2.54ex
parskip:	9.2pt	3.23mm	1.02ex
bsparskip:	9.2pt	3.23mm	1.02ex

Lecturenotes Style Test

Skips: small

line

newline

par = bspar0

bspar1

bspar2

bspar3

bspar4

baselineskip:	18pt	6.33mm	2.39ex
parskip:	9.2pt	3.23mm	1.22ex
bsparskip:	9.2pt	3.23mm	1.22ex

Lecturenotes Style Test

Skips: itemize + normalsize

- line

newline

par = bspar0

bspar1

bspar2

bspar3

bspar4

- | | | | |
|----------------------|-------|--------|--------|
| baselineskip: | 23pt | 8.08mm | 2.54ex |
| parskip: | 1.5pt | 0.53mm | 0.17ex |
| bsparskip: | 9.2pt | 3.23mm | 1.02ex |

Lecturenotes Style Test

Skips: itemize + small

- line
newline
par = bspar0

bspar1

bspar2

bspar3

bspar4

□ baselineskip:	18pt	6.33mm	2.39ex
parskip:	1.5pt	0.53mm	0.2ex
bsparskip:	9.2pt	3.23mm	1.22ex

Lecturenotes Style Test

Skips: minipage + normalsize

line

newline

par = bspar0

bspar1

bspar2

bspar3

bspar4

baselineskip:	23pt	8.08mm	2.54ex
parskip:	0pt	0mm	0ex
bsparskip:	9.2pt	3.23mm	1.02ex

Lecturenotes Style Test

Skips: minipage + small

line

newline

par = bspar0

bspar1

bspar2

bspar3

bspar4

baselineskip:	18pt	6.33mm	2.39ex
parskip:	0pt	0mm	0ex
bsparskip:	9.2pt	3.23mm	1.22ex

Lecturenotes Style Test

Font Sizes

`\huge` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\LARGE` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\Large` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\large` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\normalsize` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\small` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\footnotesize` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\scriptsize` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\scriptsize` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\tiny` **x** + $x \cdot y$ **N** **C** $\models \notin \pi \Pi$ courier **bold**

`\normalsize` (1) abcdefghijklmnopqrstuvwxyz ABCDEFGHI
JKLMNOPQRSTUVWXYZ (2) abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ (3) abcdefghijklmn
opqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (4) ab
cdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRST
UVWXYZ (5) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJK
LMNOPQRSTUVWXYZ (6) abcdefghijklmnopqrstuvwxyz A
BCDEFGHIJKLMNOPQRSTUVWXYZ (7) abcdefghijklmnop
qrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (8) abcd
efghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTU
VWXYZ (9) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLM
NOPQRSTUVWXYZ (10) abcdefghijklmnopqrstuvwxyz AB
CDEFGHIJKLMNOPQRSTUVWXYZ (11) abcdefghijklmnop
qrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (12) abc
defghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTU
VWXYZ (13) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJK
LMNOPQRSTUVWXYZ (14) abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMN OPQRSTUVWXYZ (15) abcdefghijklmn
opqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (16) a
bcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRS

T U V W X Y Z (17) a b c d e f g h i j k l m n o p q r s t u v w x y z A B C D E F G H I
J K L M N O P Q R S T U V W X Y Z (18) a b c d e f g h i j k l m n o p q r s t u v w x
y z A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (19) a b c d e f g h i j k l
m n o p q r s t u v w x y z A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
(20) a b c d e f g h i j k l m n o p q r s t u v w x y z A B C D E F G H I J K L M N O P
Q R S T U V W X Y Z (21) a b c d e f g h i j k l m n o p q r s t u v w x y z A B C D E F
G H I J K L M N O P Q R S T U V W X Y Z (22) a b c d e f g h i j k l m n o p q r s t u
v w x y z A B C D E F G H I J K L M N O P Q R S T U V W X Y Z (23) a b c d e f g h
i j k l m n o p q r s t u v w x y z A B C D E F G H I J K L M N O P Q R S T U V W X Y
Z (24) a b c d e f g h i j k l m n o p q r s t u v w x y z A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z

(1) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRST
UVWXYZ (2) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQR
STUVWXYZ (3) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOP
QRSTUVWXYZ (4) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMN
OPQRSTUVWXYZ (5) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKL
MNOPQRSTUVWXYZ (6) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJ
KLMNOPQRSTUVWXYZ (7) abcdefghijklmnopqrstuvwxyz ABCDEFGH
IJKLMNOPQRSTUVWXYZ (8) abcdefghijklmnopqrstuvwxyz ABCDEF
GHIJKLMNOPQRSTUVWXYZ (9) abcdefghijklmnopqrstuvwxyz ABCD
EFGHIJKLMNOPQRSTUVWXYZ (10) abcdefghijklmnopqrstuvwxyz AB
CDEFGHIJKLMNOPQRSTUVWXYZ (11) abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ (12) abcdefghijklmnopqrstuv
wxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (13) abcdefghijklmnopqrstu
vwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (14) abcdefghijklmnopqr
stuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (15) abcdefghijklmno
pqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (16) abcdefghijklm
nopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (17) abcdefghij
klmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (18) abcdefg
hijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (19) abcd
efghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ (20) a
bcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ
(21) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVW
XYZ (22) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTU
VWXYZ (23) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRST
UVWXYZ (24) abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQR
STUVWXYZ

`\footnotesize` (1) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ (2) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ (3) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ (4) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ (5) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ (6) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (7) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (8) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (9) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (10) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (11) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (12) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (13) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (14) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (15) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (16) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (17) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (18) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (19) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (20) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (21) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (22) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (23) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ (24) abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMN OPQRSTUVWXYZ

Lecturenotes Style Test

Verbatim

Verbatim works only outside of the bsslide environment.

```
\begin{bsslide}
\end{bsslide}
\begin{verbatim}
...
\end{verbatim}
```

The verbatim source of the current slide:

```
\begin{bsslide}[\textbufferA]
\colortext{Verbatim}
\bspar1
Verbatim works only outside of the bsslide environment.
\bspar1
{\footnotesize
\texcmd{begin}\texarg{bsslide} \\
\texcmd{end}\texarg{bsslide} \\
\texcmd{begin}\texarg{verbatim} \\
\texxt{\ldots} \\
\texcmd{end}\texarg{verbatim} \\
}
\bspar4
The verbatim source of the current slide:
\end{bsslide}
```

Lecturenotes Style Test

Dimensions of Slide Head Define Start of First Line

Slide head argument: 'Lecturenotes Style Test'

Width, height of slideheadbox: 179.45059pt, 12.70941pt

Lecturenotes Style Test

Dimensions of Slide Head Define Start of First Line (continued)

Slide head argument: `'\smash{Lecturenotes Style Test}'`

Width, height of slideheadbox: `179.45059pt, 0.0pt`

Dimensions of Slide Head Define Start of First Line (continued)

Slide head argument: `'\rule{1em}{0ex}'`

Width, height of slideheadbox: 17.28pt, 0.0pt

Dimensions of Slide Head Define Start of First Line (continued)

Slide head argument: `'\rule{0em}{1ex}'`

Width, height of slideheadbox: **0.0pt, 9.0374pt**

Dimensions of Slide Head Define Start of First Line (continued)

Slide head argument: `'\rule{0em}{0ex}'`

Width, height of slideheadbox: **0.0pt, 0.0pt**

Dimensions of Slide Head Define Start of First Line (continued)

Slide head argument: ”

Width, height of slideheadbox: 0.0pt, 0.0pt

Dimensions of Slide Head Define Start of First Line (continued)

Slide head argument: `'\hypertarget{test}{'`

Width, height of slideheadbox: `0.0pt, 0.0pt`