



長安大學

# A brief example in English

## For CHD Beamer Theme

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# Introduction

**CHD Beamer Template** is an unofficial theme for Chang'an University.

# Sample Page

A matrix  $A$  is called normal, if  $AA^* = A^*A$ .

# Step-by-Step Display

- First point: This is the first item to appear

# Step-by-Step Display

- ▶ First point: This is the first item to appear
- ▶ Second point: This is the second item to appear

# Step-by-Step Display

- ▶ First point: This is the first item to appear
- ▶ Second point: This is the second item to appear
- ▶ Third point: This is the third item to appear

# Step-by-Step Display

- ▶ First point: This is the first item to appear
- ▶ Second point: This is the second item to appear
- ▶ Third point: This is the third item to appear

Now let's show a mathematical formula:



# Step-by-Step Display

- ▶ First point: This is the first item to appear
- ▶ Second point: This is the second item to appear
- ▶ Third point: This is the third item to appear

Now let's show a mathematical formula:

$$E = mc^2 \tag{1}$$

# Step-by-Step Display

- ▶ First point: This is the first item to appear
- ▶ Second point: This is the second item to appear
- ▶ Third point: This is the third item to appear

Now let's show a mathematical formula:

$$E = mc^2 \tag{1}$$

Finally, here's an important note:

# Step-by-Step Display

- ▶ First point: This is the first item to appear
- ▶ Second point: This is the second item to appear
- ▶ Third point: This is the third item to appear

Now let's show a mathematical formula:

$$E = mc^2 \tag{1}$$

Finally, here's an important note:

## Important Tip

Use the `\pause` command to control step-by-step display!

## 2.1

### Point-by-Point

# Enumerate and itemize

1. Hello
  2. There
- ▶ Hello
  - ▶ There
    - ▶ Subitem

# Blocks

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

## Two-Column Image Display



图 1: 色狗

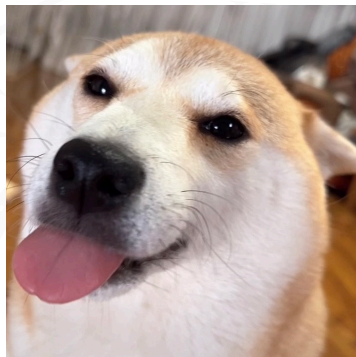


图 2: 略略略

# Three-Line Table

表 1: Table Caption Example

表头	T1	T2	T3	T4
base	50	12.34	2.15	-
A	45	15.67	2.89	0.032
B	48	18.92	3.21	0.001
C	52	21.45	2.76	<0.001

- ▶ 使用`table`环境包裹表格
- ▶ `adjustbox`宏包动态调整表格大小和位置
- ▶ `tabular`环境创建表格结构



## 2.2

### Blocks Comparison

# Blocks

## Example

This is a normal block in beamer.

## Example

This is an example block in beamer.

## Example

This is an alert block in beamer.

This is a tcolorbox.

This is a tcolorbox with red frame.

# Block Comparison - Alert

## 警告 2.1: 重要警告

使用本模板时请注意:

- ▶ 与remark block 一致

## Standard Beamer Alert

这是标准的 Beamer alertblock, 用于对比。

▶ ...

# Block Comparison - Example

例 2.1: 求解二次方程

求解方程  $x^2 - 5x + 6 = 0$  的根。

解: 使用求根公式,  $x = \frac{5 \pm \sqrt{25 - 24}}{2} = \frac{5 \pm 1}{2}$

因此  $x_1 = 3, x_2 = 2$ 。

## Standard Beamer Example

这是标准的 Beamer `exampleblock`。

同样的例子:  $x^2 - 5x + 6 = 0$

解:  $x_1 = 3, x_2 = 2$

# Block Comparison - Theorem

## 定理 2.1: 勾股定理

在直角三角形中，直角边的平方和等于斜边的平方。

即：  $a^2 + b^2 = c^2$

其中  $c$  为斜边， $a, b$  为直角边。

## Standard Block (as Theorem)

标准 Beamer 没有专门的定理块，所以使用普通的 block。

即：  $a^2 + b^2 = c^2$

其中  $c$  为斜边， $a, b$  为直角边。

# Block Comparison - Definition

## 定义 2.1: 连续函数

函数  $f: \mathbb{R} \rightarrow \mathbb{R}$  在点  $x_0$  连续当且仅当:

$$\lim_{x \rightarrow x_0} f(x) = f(x_0)$$

## Standard Block (as Definition)

使用标准 block 来表示定义:

函数  $f: \mathbb{R} \rightarrow \mathbb{R}$  在点  $x_0$  连续当且仅当:

$$\lim_{x \rightarrow x_0} f(x) = f(x_0)$$

对于任意实数  $a, b, c$ , 有以下性质:

- ▶ 交换律:  $a + b = b + a$
- ▶ 结合律:  $(a + b) + c = a + (b + c)$
- ▶ 分配律:  $a(b + c) = ab + ac$

使用标准 block 来表示性质:

- ▶ 交换律:  $a + b = b + a$
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- ▶ 分配律:  $a(b + c) = ab + ac$

# Block Comparison - Proposition

## 命题 2.1: 素数的无穷性

存在无穷多个素数。

简要说明：假设只有有限个素数  $p_1, p_2, \dots, p_n$ ，考虑数  $N = p_1 p_2 \cdots p_n + 1$ ，则  $N$  不被任何  $p_i$  整除，因此  $N$  要么是素数，要么有新的素数因子。

## Standard Block (as Proposition)

使用标准 block 来表示命题：

存在无穷多个素数。（证明略）



## Block Comparison - Condition

### 条件 2.1: 连续函数的条件

函数  $f: \mathbb{R} \rightarrow \mathbb{R}$  在点  $x_0$  连续当且仅当:

$$\lim_{x \rightarrow x_0} f(x) = f(x_0)$$

等价地，对于任意  $\varepsilon > 0$ ，存在  $\delta > 0$  使得：

$$|x - x_0| < \delta \Rightarrow |f(x) - f(x_0)| < \varepsilon$$

## Standard Block (as Condition)

使用标准 block 来表示条件:

连续性条件:  $\lim_{x \rightarrow x_0} f(x) = f(x_0)$

# Block Comparison - Lemma

## 引理 2.1: Zorn 引理

若偏序集合的每个全序子集都有上界，则该偏序集合有极大元。

应用：Zorn 引理在抽象代数和泛函分析中有重要应用，如证明每个向量空间都有基，每个环都有极大理想等。

## Standard Block (as Lemma)

使用标准 block 来表示引理：

Zorn 引理：若偏序集合的每个全序子集都有上界，则该偏序集合有极大元。

# Block Comparison - Algorithm

## 算法 2.1: 冒泡排序

输入: 数组  $A[1...n]$

步骤:

1. for  $i = 1$  to  $n - 1$  do
2.   for  $j = 1$  to  $n - i$  do
3.     if  $A[j] > A[j + 1]$  then swap( $A[j], A[j + 1]$ )

时间复杂度:  $O(n^2)$

## Standard Beamer Algorithm

标准 Beamer 使用 `exampleblock` 来展示算法: ...

# Block Comparison - Proof

勾股定理的证明。

考虑边长为  $a + b$  的正方形，可以用两种方式计算其面积。

第一种：  $(a + b)^2 = a^2 + 2ab + b^2$

第二种：大正方形面积等于中间正方形加上四个直角三角形的面积：  
 $c^2 + 4 \times \frac{1}{2}ab = c^2 + 2ab$

因此：  $a^2 + 2ab + b^2 = c^2 + 2ab$ ，得  $a^2 + b^2 = c^2$



## Standard Block (as Proof)

标准 Beamer 使用普通的 block 来表示证明。

考虑边长为  $a + b$  的正方形，可以用两种方式计算其面积...

因此得证：  $a^2 + b^2 = c^2$

*Thanks!*