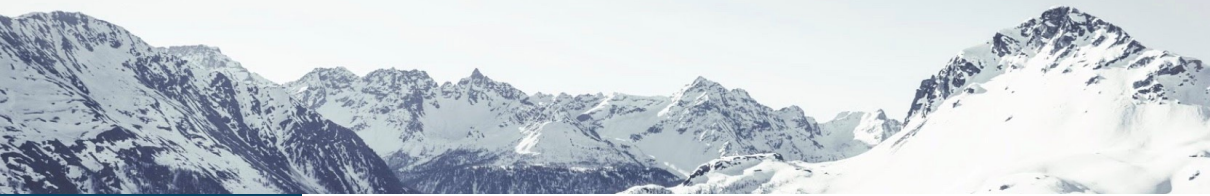
UNIVERSITAS
GADJAH MADA

UGM Beamer Template Guidelines

Harun | github.com/runsdev



Contents

Basic Slide Elements
Multi-Column Layouts
Tables
Images and Figures
Diagrams and Charts
Code Listings
Custom Boxes and Decorations
References and Bibliography
Conclusion

Basic Text Formatting

- Normal text with **bold**, *italic*, and colored text
- Bullet points with standard indentation
- Highlighted text for emphasis

1. Numbered lists are created with `enumerate`
2. Second item in the list
3. Third item with **formatting**

Basic Text Formatting

Standard Block

This is a standard block environment for highlighting content.

Alert Block

This block is used for warnings or important notes.

Example Block

This block is used for examples.

Theorem (Pythagorean Theorem)

In a right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.

$$c^2 = a^2 + b^2 \tag{1}$$

Proof.

To prove the Pythagorean theorem, we can use a geometric approach or algebraic manipulation. Consider a right triangle with legs a and b, and hypotenuse c. By constructing squares on each side and comparing areas, we arrive at the equation:

$$c^2 = a^2 + b^2$$

This completes the proof. □

Basic Math Formatting

Inline math: $E = mc^2$ is Einstein's famous equation.
Display math:

$$\nabla \times \vec{E} = -\frac{\partial \vec{B}}{\partial t}$$

Equation with numbering:

$$\nabla \times \vec{B} = \mu_0 \vec{J} + \mu_0 \varepsilon_0 \frac{\partial \vec{E}}{\partial t} \tag{2}$$

Align environment for multiple equations:

$$E = mc^2 \tag{3}$$

$$m = \frac{E}{c^2} \tag{4}$$

Two-Column Layout with Beamer Columns

Left Column

- First bullet point
- Second bullet point
- Third bullet point with longer text that may wrap to the next line

Some regular text in the left column.

Right Column

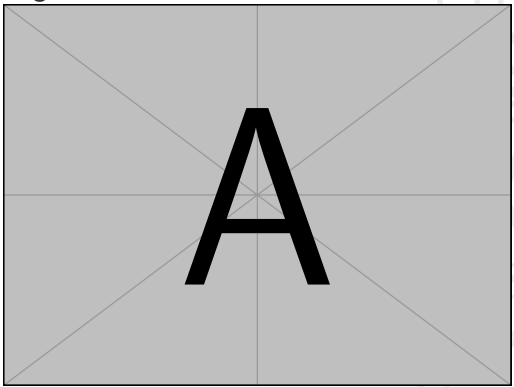


Image Caption

Three-Column Layout

Column 1

- Item 1
- Item 2

Column 2

- Item A
- Item B

Column 3

- Item X
- Item Y

Uneven Column Layout

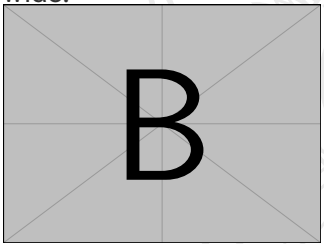
Wider Column

This column contains more content and takes up 65% of the slide width.

- The width can be adjusted as needed
- The layout is flexible
- Content will flow within the specified width

Narrower Column

This column is only 30% wide.



Basic Table

Left	Center	Right
Data 1	123	45.67
Data 2	456	89.01
Data 3	789	23.45

Basic table with borders

Table Usage Tip

Use the | character to create vertical lines and `\hline` for horizontal lines.

Professional Table with Booktabs

Method	Accuracy (%)	Time (s)
Method A	95.2	1.23
Method B	97.8	2.56
Method C	98.1	4.78

Professional table with booktabs package

Booktabs Tip

Use `\toprule`, `\midrule`, and `\bottomrule` for professional tables.

Colored Table

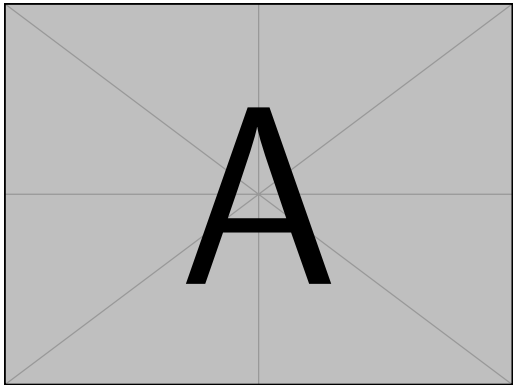
Category	Value	Percentage
Category A	45.2	22%
Category B	32.1	16%
Category C	78.9	39%
Category D	47.3	23%

Table with alternating row colors

Color Tip

Use `\rowcolors{2}{color1}{color2}` to alternate row colors starting from row 2.

Basic Image Inclusion



Full-width image with caption

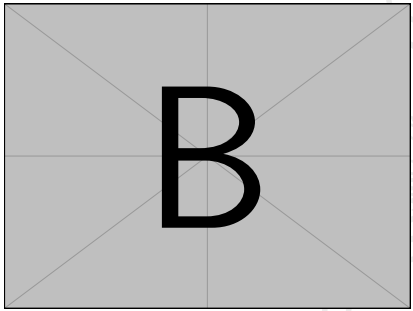


Image using figure environment

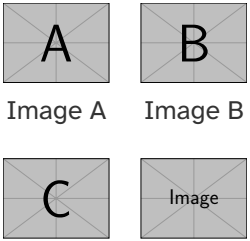
Basic Image Inclusion

Image Tip

Use `width=\textwidth` to make the image fill the column width.

- Use `figure` environment for formal figures
- Use `centerline` for simple captions
- Control size with `width` parameter

Image Grid Layout



Grid Tip

Use a `tabular` environment to create a grid of images with captions.

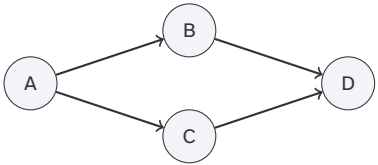
Including Videos (only in supported PDF viewers)

Including Videos (only in supported PDF viewers)

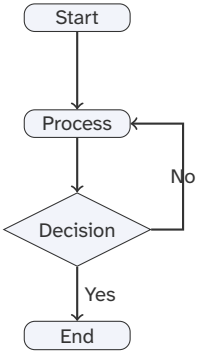
Video Tip

- Use the `media9` package for embedded videos
- Videos will play in PDF viewers that support multimedia (e.g., Adobe Reader, Foxit Reader)
- Parameters can control autoplay, controls, etc.

TikZ Diagrams

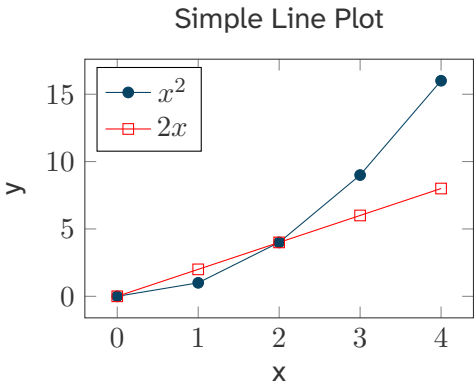


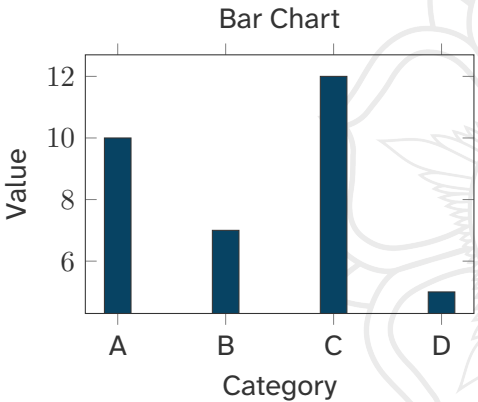
Simple network diagram



Simple flowchart

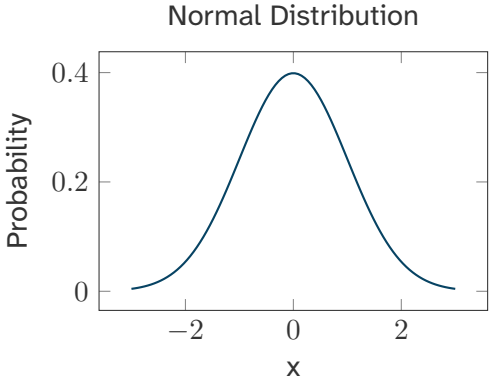
Graphs with PGFPlots

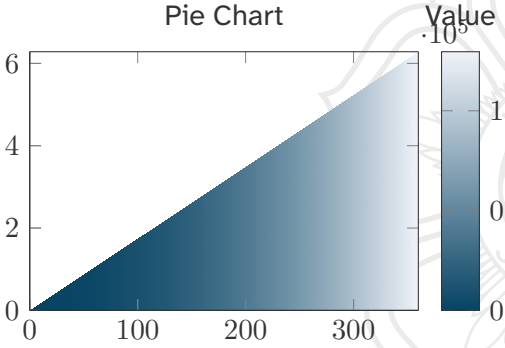




Use the `pgfplots` package for creating professional charts and graphs.

More Chart Examples





Basic Code Listing

```cpp
#include <iostream>

int main() {
    // This is a comment
    std::cout << "Hello, World!" << std::endl;
    return 0;
}

```

Listing 1: Hello World Example

Listing Tip

- Specify the language for syntax highlighting
- Use the `listings` and `[fragile]` for frames with listings

Code Listing with Line Numbers and Highlighting

```python
def calculate_factorial(n):
    """
    Calculate the factorial of a number using recursion.
    """
    if n <= 1:
        return 1  # Base case
    else:
        return n * calculate_factorial(n-1)  # Recursive case

# Test the function
for i in range(5):
    print(f"Factorial of {i} is {calculate_factorial(i)}")

```

Listing 2: Python Example

Inline Code and Algorithms

Inline code: `int x = 42;`

```sql
SELECT
    students.name,
    AVG(grades.score) as avg_score
FROM students
JOIN grades ON students.id = grades
    .student_id
GROUP BY students.id
HAVING avg_score > 80
ORDER BY avg_score DESC;

```

Listing 3: SQL Query

Input: Array A of size n
Output: Sorted array A
for $i \leftarrow 1$ **to** $n - 1$ **do**
    $key \leftarrow A[i]$;
    $j \leftarrow i - 1$;
    while $j \geq 0$ *and* $A[j] > key$ **do**
        $A[j + 1] \leftarrow A[j]$;
        $j \leftarrow j - 1$;
    end
    $A[j + 1] \leftarrow key$;
end

Algorithm 1: Insertion Sort

TColor Boxes

Standard Box

This is a standard colored box with a title.

- You can include lists
- And other content inside

Warning Box

This box uses different colors to indicate warnings or critical information.

Box with Shadow

This box has a drop shadow effect.

Custom TColor Boxes

Note Box

Important note with an icon in the title.

Tip Box

Useful tip with a light bulb icon in the title.

Question Box

Question or quiz with a question icon in the title.

Manual Bibliography

- Author, A. (2023). *Title of the paper*. Journal Name, 10(2), 123-145.
- Author, B., & Author, C. (2022). *Title of the book*. Publisher Name.

Bibliography Tips

Bibliography Options

- **Manual bibliography:** Use `thebibliography` environment
- **BibTeX:** Use `bibliographystyle` and `bibliography` commands
- **BibLaTeX:** More modern approach with `printbibliography`

Additional Resources

LaTeX Resources

- Overleaf Documentation
- LaTeX Wikibook
- TeX Stack Exchange
- Beamer User Guide
- PGFPlots Manual
- TikZ Documentation

Contacts and Collaboration

- Email: harunsixsix-four@gmail.com
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- Last updated: June 23, 2025