



Introduction to Scientific Working

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Keywords

acknowledgement awards beamer bibliography CORE ranking DBLP
conference editorial board generative AI Google Scholar h-index impact factor
journal \LaTeX LIPIcs LNCS open access plagiarism presentation
program committee rebuttal review submission TikZ workshop ...

Types of Scientific Works

- ▶ seminar report
- ▶ bachelor thesis
- ▶ master thesis
- ▶ PhD thesis
- ▶ habilitation thesis
- ▶ workshop paper
- ▶ conference paper
- ▶ journal article
- ▶ book chapter
- ▶ book

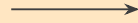
Outline

1. TikZ
2. Conferences
3. LaTeX
4. Scheduling
5. Homework

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```
\usetikzlibrary{arrows.meta}
\draw [thick,-{Stealth}] (0,0) -- ++(2,0);
```



Arrow Tips

| | | | |
|----|---------------------------|----|----------------------------|
| → | Classical TikZ Rightarrow | → | Computer Modern Rightarrow |
| ⇒ | Implies | →} | Hooks |
| → | Arc Barb | →) | Parenthesis |
| → | Bar | →) | Straight Barb |
| →] | Bracket | → | Tee Barb |
| →● | Circle | →○ | Circle[open] |
| →◆ | Diamond | →◇ | Diamond[open] |
| →◐ | Ellipse | →◓ | Ellipse[open] |
| →◑ | Kite | →◒ | Kite[open] |

```
\usetikzlibrary{arrows.meta}
\draw [thick,-{Stealth}] (0,0) -- ++(2,0);
```

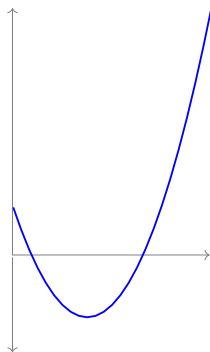


Arrow Tips (cont'd)

| | | | |
|---|----------------|---|---------------------|
| → | Latex | → | Latex[open] |
| → | Latex[round] | → | Latex[round,open] |
| → | Rectangle | → | Rectangle[open] |
| → | Square | → | Square[open] |
| → | Stealth | → | Stealth[open] |
| → | Stealth[round] | → | Stealth[round,open] |
| → | Triangle | → | Triangle[open] |
| → | Turned Square | → | Turned Square[open] |

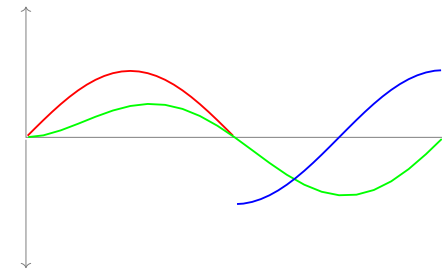
Plots

```
\draw [help lines,<->] (0,5) - (0,0) - (4,0);
\draw [help lines, ->] (0,0) - (0,-2);
\draw [blue, thick, domain=0:4] plot (\x, {\x*\x-3*\x+1});
```



$$x^2 - 3x + 1$$

```
\draw [help lines,<->] (0,2) - (0,0) - (6.5,0);
\draw [help lines, ->] (0,0) - (0,-2);
\draw [red, thick, domain=0:pi] plot (\x, {\sin(\x r)});
\draw [green, thick, domain=0:2*pi] plot (\x, {\sin(\x r)*ln(\x+1)/2});
\draw [blue, thick, domain=pi:2*pi] plot (\x, {\cos(\x r)*exp(\x/exp(2*pi))});
```



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- ▶ location
- ▶ call for papers
- ▶ deadlines
- ▶ program committee
- ▶ invited speakers
- ▶ accepted papers
- ▶ rebuttal
- ▶ **publication**
- ▶ ranking
- ▶ **awards**

Federated Logic Conference (FLoC) 2026

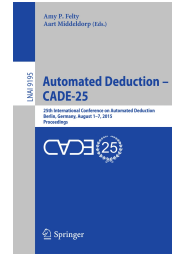
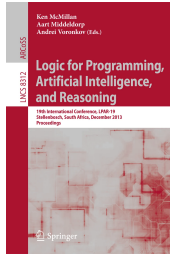
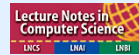
- | | |
|---|-------|
| ▶ 32nd International Conference on Principles and Practice of Constraint Programming | CP |
| ▶ 11th International Conference on Formal Structures for Computation and Deduction | FSCD |
| ▶ 42nd International Conference on Logic Programming | ICLP |
| ▶ 23rd International Conference on Principles of Knowledge Representation and Reasoning | KR |
| ▶ 41st Annual Symposium on Logic in Computer Science | LICS |
| ▶ 29th International Conference on Theory and Applications of Satisfiability Testing | SAT |
| ▶ 38th International Conference on Computer Aided Verification | CAV |
| ▶ 39th IEEE Computer Security Foundations Symposium | CSF |
| ▶ 13th International Joint Conference on Automated Reasoning | IJCAR |
| ▶ 17th International Conference on Interactive Theorem Proving | ITP |

Awards

- ▶ best paper
- ▶ best student paper
- ▶ distinguished paper award
- ▶ test-of-time award
- ▶ ...
- ▶ best reviewer award
- ▶ ...
- ▶ Turing award
- ▶ ...
- ▶ other awards in computer science

Publication

- ▶ ACM
- ▶ IEEE
- ▶ Lecture Notes in Computer Science (LNCS)
- ▶ Leibniz International Proceedings in Informatics (LIPIcs)



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Exemplary Bachelor Theses

- ▶ Number Link Benjamin Ruppachter 2009
- ▶ Kurodoko Johannes Koch 2020
- ▶ Five Cells Diana Grundlinger 2023

Common Ingredients

- ▶ appendices
- ▶ bibliography
- ▶ chapters/sections
- ▶ figures
- ▶ footnotes
- ▶ formulas
- ▶ hyper links
- ▶ lists
- ▶ plots
- ▶ program code
- ▶ screen shots
- ▶ table of contents
- ▶ tables

Some dummy\footnote{This is the first footnote.} text. Footnote marks should not be placed before\footnotemark[1], like here, but after punctuation marks, like this.\footnote{This is the second footnote.}

src

► **footmisc** package for customizing footnotes

```
\usepackage[perpage,para,symbol]{footmisc}
```

Some dummy\footnote{This is the first footnote.} text. Footnote marks should not be placed before\footnotemark[1], like here, but after punctuation marks, like this.\footnote{This is the second footnote.} And here is a third\footnote{This is the third footnote.} one.

src

```
\usepackage{amsmath}
```

```
\begin{multline}
```

```
\sum_{i=1}^{15} a_{i+1}b_i^2 = a_2b_1^2 + a_3b_2^2 + a_4b_3^2 + a_5b_4^2 + a_6b_5^2 \\ + a_7b_6^2 + a_8b_7^2 + a_9b_8^2 + a_{10}b_9^2 + a_{11}b_{10}^2 \\ + a_{12}b_{11}^2 + a_{13}b_{12}^2 + a_{14}b_{13}^2 + a_{15}b_{14}^2 + a_{16}b_{15}^2
```

```
\end{multline}
```

```
\begin{align}
```

```
f(x,y,z) &= \lnot (x \to y) \lor z & h(x,y) &= x \lor \lnot y \\ g(x,y) &= x \to x \land y & i(x) &= 0
```

```
\end{align}
```

```
\begin{align}
```

```
f(x,y,z) &= \lnot (x \to y) \lor z & h(x,y) &= x \lor \lnot y
```

```
\intertext{and}
```

```
g(x,y) &= x \to x \land y & i(x) &= 0
```

```
\end{align}
```

src

Topics

► Greek alphabet

| | | | | | | | |
|-------------|---------------|-----------|-------------|-----------|-------------|----------|------------|
| \alpha | α | \eta | η | \nu | ν | \tau | τ |
| \beta | β | \theta | θ | \xi | ξ | \upsilon | υ |
| \gamma | γ | \iota | ι | o | o | \phi | ϕ |
| \delta | δ | \kappa | κ | \pi | π | \chi | χ |
| \epsilon | ϵ | \lambda | λ | \rho | ρ | \psi | ψ |
| \zeta | ζ | \mu | μ | \sigma | σ | \omega | ω |
| \varepsilon | ε | \vartheta | ϑ | \varsigma | ς | \varphi | φ |
| \Gamma | Γ | \Theta | Θ | \Xi | Ξ | \Upsilon | Υ |
| \Delta | Δ | \Lambda | Λ | \Pi | Π | \Psi | Ψ |
| | | | | \Sigma | Σ | \Omega | Ω |

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Topics

| | | | |
|--------------|-------------|----------------|---------------|
| 1 chemmacros | 5 listings | 10 pgfplots | 14 tikzmark |
| 2 chessboard | 6 mathtools | 11 postit | 15 tikzpeople |
| 3 cleveref | 8 MusiXTeX | 12 qrcodetikz | 16 tkz-berge |
| 4 enumitem | 9 pgf-go | 13 TangramTikz | 17 todonotes |

Assignment

| | | |
|----------------------|---------------------------|----------------------------------|
| 1 Bacher Martin | 6 Oppermann Linda | 13 Paganini Adriano |
| 2 Weilbacher Jannick | 8 Beier Tom Simon | 14 Hölzl Sebastian |
| 3 Darsel Esma | 8 Küllmar Jan Peter | 15 Krause Jakob Moritz |
| 3 Fitz Julia | 9 Albrecht Odin | 16 Musch Eric Edgar Friedrich |
| 4 Bekhtari Salma | 10 Kerber Thomas Martin | 17 Freiermuth Marie |
| 4 Ristova Kirjana | 11 Ilic Ilija | 17 Leinfelder Matthias Christian |
| 5 Krumholz Maya | 11 Khakhlou Pavel | |
| 5 Sagerer Marie | 12 Ciech Dominique Manuel | |

Scheduling

| | | | | | | |
|-----------|----|----|----|----|----|---|
| ▶ June 11 | 5 | 4 | 11 | 8 | 17 | 9 |
| ▶ June 18 | 10 | 16 | 13 | 14 | 15 | 6 |
| ▶ June 25 | 3 | 12 | 1 | 2 | | |

Instructions

- ▶ 15 minute presentation using slides with **beamer** package
- ▶ 5 to 10 page report in **LIPics** format (deadline: 10 am on July 3)
- ▶ content:
 - ▶ functionality
 - ▶ examples
 - ▶ options
 - ▶ ...

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Homework Exercises for April 23

- ① Which awards are presented by the conferences that are part of FLoC 2026? ①
- ② Prepare a five page conference paper in both the LIPics and LNCS formats. Feel free to use lipsum or blindtext package to generate dummy content. ③
- ③ Use TikZ to typeset the following diagram: ①

