

# Part 8

- *plagiarism*
- *citing and references*
- *bibliography*
- *citing, quoting, support*

Research Methods in Computer Science

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# Why do we cite the work of others?

- ① To acknowledge the work of other writers and researchers
- ② To demonstrate the body of knowledge on which our own work is based
- ③ To enable the reader to trace our sources easily and lead her/him on to further information

We do NOT cite to indicate that we have copied text from another source! That's plagiarism!

# Plagiarism

- the verbatim (word for word) copying of another's work without appropriate and correctly presented acknowledgement;
- the close paraphrasing of another's work by simply changing a few words or altering the order of presentation, without appropriate and correctly presented acknowledgement;
- unacknowledged quotation of phrases from another's work;
- the deliberate and detailed presentation of another's concept as one's own.

Copying of another's work, then adding a reference to that work, is NOT considered an 'appropriate and correctly presented acknowledgement'

Verbatim copying is only allowed in the context of [proper quotation](#)

# What constitutes a good source?

- ① Precise location
  - ~ Sufficient information must be given for a third person to be able to locate your source
- ② Longevity of source
  - (Journals → Proceedings → Technical Reports → Web sources)
- ③ Accessibility of source
  - ~ Completely free → Free subscription → Paid
  - ~ Avoid 'private communication'
- ④ Reputation / Quality of source
- ⑤ 'Originality'
  - Original paper → secondary paper / translation
- ⑥ 'Language'
  - If possible, a source should be in the language you write in
- ⑦ Readability of source
  - Well written → badly written

# Definitions

## Citing / Referencing

Formally recognising, within your text, the sources from which you have obtained information

## Citation / Quotation

A passage or words quoted within your text, supported with a reference to its source

## Reference

A detailed description of a source from which you have obtained information

## List of references

List of all sources which are cited in the body of your work

## Bibliography

List of all sources which have been consulted in preparation of your work

# References

- References need to include the following information, with the order and format depending on the chosen *style*:
  - Author(s) or editor(s) responsible for writing/editing the work cited
  - Title and subtitle of the work
  - Where the work can be obtained or found
  - Year the work was created, presented, and/or published
- What information is required about where the work can be obtained depends on its *type*

# References: books

## Book

- Author(s) or editor(s)
- Title and subtitle
- Edition, if not the first, for example 2nd ed.
- Series and individual volume number (if any)
- Publisher
- (Place of publication)
- Year of publication

## Examples:

- A. A. Fraenkel, Y. Bar-Hillel, and A. Levy. *Foundations of Set Theory*, 2nd revised edition. Studies in Logic and The Foundations of Mathematics 67. North-Holland, Amsterdam, 1973.
- A. Robinson and A. Voronkov, editors. *Handbook of Automated Reasoning*. Elsevier, 2001.

# References: chapters/sections of a book

## Chapter/section of a book

- Author(s) of the chapter/section
- Title and subtitle of the chapter/section
- Author/editor of collected work
- Title and subtitle of collected work
- Chapter/section referred to
- Page numbers of chapter/section referred to
- Publisher
- (Place of publication)
- Year of publication

## Example:

W. Bibel and E. Eder. Methods and calculi for deduction. In C. J. Hogger, D. M. Gabbay and J. A. Robinson, editors, *Handbook of Logic in Artificial Intelligence and Logic Programming, Volume 1*, chapter 3, pages 67–182. Oxford University Press, 1993.

# References: conference proceedings

## Conference proceedings

- Editor(s) of proceedings
- Name and number of conference
- Location of conference (if appropriate)
- Time of conference
- Title of published work; if different from the name of the conference
- Series and individual volume number (if any)
- Publisher
- Place of publication
- Year of publication

## Example:

D. A. Basin and M. Rusinowitch, editors. *Automated Reasoning - Second International Joint Conference, IJCAR 2004, Cork, Ireland, July 4–8, 2004, Proceedings*. Lecture Notes in Computer Science 3097. Springer, 2004.

# References: conference papers

## Conference paper

- Author(s) of the paper
- Title and subtitle of the paper
- All information on the conference proceedings plus
- Page numbers of the paper

## Example:

Volker Weispfenning. Solving Constraints by Elimination Methods. In D. A. Basin and M. Rusinowitch, editors. *Automated Reasoning - Second International Joint Conference, IJCAR 2004, Cork, Ireland, July 4–8, 2004, Proceedings*. Lecture Notes in Computer Science 3097, p. 336–341. Springer, 2004.

# References: journal articles

## Journal article

- Author(s) of the article
- Title and subtitle of the article
- Title of the journal
- Volume and part number
- Page numbers of article
- Date, month or season of the year, if appropriate
- Year of publication

Note: Information on publisher is typically not required

## Examples:

R. MacGregor. Inside the LOOM description classifier. *SIGART Bulletin*, 2(3):88–92, 1991.

A. Seager. Energy subsidy plan for home runs out of cash. *The Guardian*, 21 October 2006, p. 6.

# References: thesis and dissertation

## Thesis and dissertation

- Author of the work
- Title and subtitle of the work
- Type of work
- Awarding institution including its address
- Year, possibly month, of publication

## Examples:

G. Rosu. *Hidden Logic*. PhD thesis, Department of Computer Science and Engineering, University of California, San Diego, CA, USA, August 2000.

R. A. van der Goot. *Strategies for modal resolution*. Master's thesis, Faculty of Technical Mathematics and Informatics, Delft University of Technology, The Netherlands, 1994.

# References: web pages

## Web pages

- Author(s) of the web page(s)
- Title and subtitle
- URL
- Date of last modification, if available
- Date of access

## Examples:

The PHP Group. PHP: Hypertext preprocessor.

<http://www.php.net/>. 22 October 2006.

The International DOI Foundation. The Digital Object Identifier System. <http://www.doi.org/>. 25 July 2006 (accessed 22 October 2006).

# Examples

Bad:

Marco Dorigo and Thomas Stutzle, Ant Colony Optimization.

Good:

Marco Dorigo and Thomas Stützle. Ant Colony Optimization. Bradford Book, 2004.

Bad:

JAVA, JAVA, JAVA by Ralph Morelli

Good:

Ralph Morelli. Java, Java, Java: Object-Oriented Problem Solving, 2nd edition. Prentice Hall, 2003.

# Examples

Bad:

Marco Dorigo, Gianni Di Caro, Michael Samples, Ant Algorithms, third international workshop, Ant 2002, Brussels, Belgium, September 2002, Proceedings.

Good:

Marco Dorigo, Gianni Di Caro, [and](#) Michael Samples, [editors](#). Ant Algorithms: Third International Workshop, ANTS 2002, Brussels, Belgium, September [12–14](#), 2002, Proceedings. [Lecture Notes in Computer Science](#) 2463. Springer, 2002.

Bad:

<http://www.cut-the-knot.org/blue/Stern.shtml>

Good:

[Alexander Bogomolny](#). Stern-Brocot Tree.

<http://www.cut-the-knot.org/blue/Stern.shtml>.

[Last modification June 17, 2000](#). Accessed October 26, 2006.

# Bibliography styles

## Bibliography styles

- Ordinal number
- Author-date
- Abbreviation

# Bibliography styles: ordinal number

- Sources listed in the bibliography are sorted according to some ordering, typically based on the authors' names, and numbered consecutively
- References in the text are given as (lists of) numbers cross-referencing the bibliography, enclosed in square brackets

## Example:

Key techniques for utilising temporal logic specifications have been investigated, including verification via proof [3] and verification via model-checking [1,2].

## Bibliography

1. E. Clarke, O. Grumberg, and D. A. Peled. *Model Checking*. MIT Press, 2000.
2. K. L. McMillan. *Symbolic Model Checking*. Kluwer, 1993.
3. M. Vardi and P. Wolper. Reasoning about infinite computations. *Inform. and Computat.*, 115:1–37, 1994.

# Bibliography styles: author-date

- Sources in the reference list are arranged alphabetically by the authors' names;  
where there is more than one work by the same authors, they are arranged by year of publication, starting with the earliest;  
where there is more than one work with the same authors and date, a letter is added to the year of publication to distinguish them

Example:

## Bibliography

- E. Clarke, O. Grumberg, and D. A. Peled (2000). *Model Checking*. MIT Press.
- K. L. McMillan (1993). *Symbolic Model Checking*. Kluwer.
- M. Vardi and P. Wolper (1994). Reasoning about infinite computations.  
*Inform. and Computat.*, 115:1–37.

## Bibliography

- P. Wolper (1996a). Where is the Algorithmic Support? *ACM Comput. Surv.* 28(4): 58.
- P. Wolper (1996b). The Meaning of “Formal”. *ACM Comput. Surv.* 28(4): 127.

Your Key to Clear, Concise,  
and Inclusive Writing



# Bibliography styles: author-date

- A reference is given by the authors' names and the date enclosed in parentheses unless the authors' names are part of the sentence

## Example of quoting:

The following is an extract from (Wolper 1996a):

*Consider, for instance, the issue of compositionality in proof systems for concurrency. I am not going to argue that compositionality is undesirable, but that achieving it without algorithmic support (in a broad sense) is easy and mostly useless.*

## Example of citing:

While Wolper (1996a) does not argue that compositionality in proof systems for concurrency is undesirable, he claims that achieving it without algorithmic support is mostly useless.

The completion procedure may fail in general, but has been extended to a refutationally complete theorem prover (cf. Lankford 1975, Hsiang and Rusinowitch 1987, and Bachmair, Dershowitz and Plaisted 1989). Completion procedures for conditional equations have been described by Kounalis and Rusinowitch (1988), and by Ganzinger (1987a, 1987b).

# Bibliography styles: abbreviation

- Mix of ordinal number style and author-date style
- Sources in the bibliography are presented like in ordinal number style, but instead of numbering them, each source is given a unique identifier based on authors' names and year of publication, with additional letters to disambiguate duplicate abbreviations

Example:

## Bibliography

- [CGP00] E. Clarke, O. Grumberg, and D. A. Peled. *Model Checking*. MIT Press, 2000.
- [vdG94] R. A. van der Goot. *Strategies for modal resolution*. Master's thesis, Delft University of Technology, The Netherlands, 1994.
- [Wol96a] P. Wolper. Where is the Algorithmic Support? *ACM Comput. Surv.* 28(4):58, 1996.
- [Wol96b] P. Wolper. The Meaning of “Formal”. *ACM Comput. Surv.* 28(4):127, 1996.

# Bibliography styles: abbreviation

- References in the text are given as (lists of) abbreviations cross-referencing the bibliography, again enclosed in square brackets

## Examples:

Key techniques for utilising temporal logic specifications have been investigated, including verification via proof [VW94] and verification via model-checking [CGP00, McM93].

Recent work [Wol96a, Wol96b] stresses the importance of algorithmic support for formal methods.

Wolper in [Wol96a, Wol96b] stresses the importance of algorithmic support for formal methods.

The completion procedure may fail in general, but has been extended to a refutationally complete theorem prover (cf. [Lan75, HR87, BDP89]). Completion procedures for conditional equations have been described by Kounalis and Rusinowitch [KT88], and by Ganzinger [Gan87a, Gan87b].

# Organizing references

- There are myriads of styles for references and bibliographies
- You should maintain information on your sources in a ‘neutral’ format
- Ideally, you should use a tool which
  - supports such a ‘neutral’ format
  - allows to add, delete, modify references
  - allows to search for references
  - interacts with your word processor/text editor
  - generates a list of references in any desired format

# Reference management tools

**Zotero**

- Zotero



- Mendeley



- EndNote



- RefWorks



- Citavi



- PaperPile



- JabRef



- Papers



- Docear

- ...

# Reference management tools

# zotero

Zotero is a free referencing tool that allows you to collect, cite, organize and share research sources. Zotero comes with a browser extension that automatically senses content in your web browser, allowing you to add it to your personal library with a single click. It automatically picks up the nature of the text displayed in the page and displays a relevant icon in the address bar that represents the content (book, article, etc). The user can click this icon to add the reference to the library. Zotero automatically parses metadata of PDF files and extracts citation information and adds it to the library. You can include the references in your text by simply dragging and dropping citation files from the Zotero library into the document. Zotero supports all the major citation formats.



Mendeley is a free referencing manager and social network that helps you organize research, collaborate online and discover new research. You can sign up for a Mendeley account online and install the Mendeley Desktop Tool in your computer. You can import papers into Mendeley library from your hard drive by simply dragging and dropping files. You can also import reference list from other reference managers or by searching various web databases for papers through Mendeley Literature Search. You can also use Mendeley Web Importer, a browser plugin that allows you to import documents from anywhere on the web quickly. Mendeley desktop will display a PDF icon next to the paper if the full text is available. You can search annotate and add notes to PDF documents. You can sync your libraries to the cloud to access them anywhere. Mendeley Writing Addins are available for MS Word and LibreOffice which enables you to insert references into your article and generate a bibliography list.

# Reference management tools



EndNote is a reference management tool that allows you to import references directly from online sources such as PubMed, Web of Science, Library of Congress, etc. You can also import references by uploading a list of references in Citation Manager format. Alternatively, you can manually input the references if it is an unpublished source. You can insert references in the document as you write using EndNote Word Addin. EndNote supports numerous citation formats. The tool automatically generates the bibliography for the references contained in the text. The cost of full single user license is £209, and student license is £99.



RefWorks is a reference management software quite similar to EndNote. RefWorks is web-based as in the reference database is stored online. The references can be accessed and updated from any computer with an internet connection. Institutions subscribe to RefWorks on behalf of all their students, faculty and staff. The references can be included in the text using RefWorks's Write-n-Cite Microsoft Word Addin. This plugin allows users to insert references in the text and generate a bibliography in a wide variety of formats.

# Reference management tools



Citavi is a reference management tool that combines referencing with task management. Citavi allows users to search for sources, analyze content, structure ideas and write a paper. You can import PDFs by dragging and dropping files and add books and articles using ISBN. When you find information on the web, you can use Citavi browser plugin to import quotations, pictures, and web pages to Citavi library. You can annotate PDFs and save pictures to Citavi library. You can also make a note of your thoughts while reading a research paper using Citavi Thoughts Option. You can add tasks to the tasks manager window to manage project deadlines. You can structure your paper by creating an outline in Citavi. Then you can drag and drop references, image, and quotations to relevant sections of the paper. Finally, you can download the paper outline as a Word document and start filling in the missing bits of the paper.



PaperPile is a GoogleDocs Addon for managing your references and bibliography. It is a very useful tool if you are using GoogleDocs for writing papers instead of MS Word. PaperPile is attached to your Google account. You can download this app from the Google store. There is a basic version available for free, and you can upgrade for a few dollars to a premium version. One of the big advantages of PaperPile is that it works very well with other citation managers such as Zotero and EndNote. PaperPile allows you to import Zotero or EndNote citations into GoogleDocs. You can insert citations, format citations and generate a bibliography in a wide variety of formats. You can easily import papers from Google Scholar into PaperPile. If full-text PDF is available for an article, you can use PaperPile to store them in GoogleDrive.

# Reference management tools



JabRef is a reference management software for Latex. The tool allows you to manage citations and generate bibliography if you are using Latex as your writing medium. This is a free tool and is well maintained. You can simply download citations in BibTex format and create entries in JabRef. You can also export a list of papers from multiple sources at the same time by selecting multiple items from a web page. JabRef tool will produce a .bib file with a list of references in your library and create a BibTexKey for each source. Now you can link this .bib file with Latex using 'addbibresource' command and cite articles in your Latex document using BibTexKey and 'cite' command. It supports a wide variety of citation styles and bibliography formats.



Papers is a citation manager and referencing tool that allows users to discover, organize, read & annotate and share research. Papers tool is available for both Windows and Mac. It comes with all the basic functionality offered by other reference managers. Also some useful features are unique to Papers. You can search multiple search engines at the same time for keywords and view one set of results. You can organize your references by annotating, ranking and color coding. You can search your research library by building a complex query rather than searching for simple keywords. You can share your collection with your colleagues using Papers online web interface.

# Reference management tools



Docear helps you to find relevant literature and remember all the things you read in the literature. Docear is a free tool and is available for Windows, Mac, and Linux. It provides a user-friendly graphical interface where you can drag and drop PDFs into different categories and topics. Then you can directly open the PDFs from this interface and annotate them. The annotations can be viewed by clicking on annotation icon that is displayed next to the PDF in the graphical interface. You can create an outline of the paper using Docear's interactive user interface. You can drag and drop annotations and references into relevant sections of your outline in the interface. Once you are done, you can download the outline as a document in a wide variety of formats.

# Reference management tools

- Tools like these help you to maintain a large set of bibliographic references
- They ease the burden of referencing and generating lists of references according to a specific style
- If no specific style is requested, then providing all the necessary information about each of your sources in a **consistent way** is the most important aspect of a bibliography
- Beware that the way you formulate sentences which include references depends on the referencing style; changing that style later on is time-consuming and error-prone

# citing: rules of thumb (Zobel 2004)

- If you discuss a paper in detail or note some particular contribution it makes, it **must** be cited
- Claims, statements of fact, discussions of previous work **should** be supported by references, if not supported by your current work  
**But:** Do not cite to support common knowledge;  
do not end every sentence with a reference
- References to your own previous work **is allowed** if it is relevant to your current work  
**But:** Gratuitous self-reference is counterproductive
- Attribute work correctly, in particular, when relying on secondary sources  
**Bad:** According to Dawson (1981), stable graphs have been shown to be closed  
**Good:** According to Kelly (1959; as quoted by Dawson, 1981), stable graphs are closed

# citing

Original text [19]:	Student's text:
<p>KNOWITALL is an autonomous system that extracts facts, concepts, and relationships from the web. KNOWITALL is seeded with an extensible ontology and a small number of generic rule templates from which it creates text extraction rules for each class and relation in its ontology. The system relies on a domain- and language-independent architecture to populate the ontology with specific facts and relations.</p>	<p>An example of the described system is KNOWITALL [19]. It is an autonomous system that extracts facts, concepts, and relationships from the web. KNOWITALL [19] is seeded with an extensible ontology and a small number of generic rule templates from which it creates text extraction rules for each class and relation in its ontology. The system relies on a domain- and language-independent architecture to populate the ontology with specific facts and relations.</p>

References are **not** meant to indicate copying! This is **wrong!**

# citing

Original text [19]:	Improved text:
<p>KNOWITALL is an autonomous system that extracts facts, concepts, and relationships from the web. KNOWITALL is seeded with an extensible ontology and a small number of generic rule templates from which it creates text extraction rules for each class and relation in its ontology. The system relies on a domain- and language-independent architecture to populate the ontology with specific facts and relations.</p>	<p>An example of the described system is KNOWITALL [19]. Given an initial ontology and a small number of rule templates which do not depend on the class and relationships in the ontology, KNOWITALL generates text extraction rules for each class and relationship in the ontology. These text extraction rules are then applied to texts found on the web. Rule applications populate the ontology with instances of the concepts and relationships in the ontology.</p>

# citing

- A reference in ordinal-number style never starts a sentence  
**Wrong:** [9] Disaster rescue is a serious social issue.  
**Correct:** Disaster rescue is a serious social issue [9].
- In ordinal-number style a list of references is a comma-separated list of numbers enclosed in one pair of square brackets  
**Wrong:** The humanoid soccer robots are fully autonomous [5][9].  
**Correct:** The humanoid soccer robots are fully autonomous [5,9].
- A reference never occurs in a section heading  
**Wrong:** Section 5. The History of RoboCup [9]  
**Wrong:** Section 5. The History of RoboCup (Henry 2006)

# citing

- A reference never comes after a full stop

Wrong: 2-on-2 teams of autonomous mobile robots play games in a rectangular field color-coded in shades of grey. [9]

Correct: 2-on-2 teams of autonomous mobile robots play games in a rectangular field colour-coded in shades of gray [9].

- Beware of the differences between ordinal-number style and author-date style

Wrong: [11,12] stresses the importance of algorithmic support for formal methods.

Correct: Wolper (1996a, 1996b) stresses the importance of algorithmic support for formal methods.

Correct: Wolper [11,12] stresses the importance of algorithmic support for formal methods.

# citing

Examples of correct use of author-date style:

While Wolper (1996a) does not argue that compositionality in proof systems for concurrency is undesirable, he claims that achieving it without algorithmic support is mostly useless.

Recent work (Wolper 1996a, 1996b) stresses the importance of algorithmic support for formal methods.

Wolper (1996a, 1996b) stresses the importance of algorithmic support for formal methods.

The completion procedure may fail in general, but has been extended to a refutationally complete theorem prover (cf. Lankford 1975, Hsiang and Rusinowitch 1987).

Completion procedures for conditional equations have been described by Kounalis and Rusinowitch (1988), and by Ganzinger (1987a, 1987b).

# quoting

Example taken from a student's text:

*Such dangers are catered for by ensuring the closure of the function set. Koza [1992] states that:*

*The closure property requires that each of the functions in the function set be able to accept, as its arguments, any value and data type that may possibly be assumed by any terminal set. That is, each function in the function set should be well defined and closed for any combination of arguments that it may encounter.*

*Without closure, many individuals could have their fitness drastically lowered as a result of minor syntactic errors.*

Direct quotation from Koza [1992]; clearly indicated as such; restricted to (less than) one paragraph; source stated.

# quoting

Examples taken from a student's text:

*Bickle [1996] states that “[t]he superior method to obtain compact and accurate solutions is the method of adaptive parsimony pressure [...]”.*

Quotation clearly indicated by quotation marks; alterations indicated in square brackets; source stated.

*Day [2005] reports that “GP shows great promise in creating robust classifiers for [Automatic Speaker Verification] purposes” where programs attempt to recognise the voice of a known individual.*

Quotation clearly indicated by quotation marks; alterations indicated in square brackets; source stated.

# quoting

Examples taken from a student's text:

*More recently, in 1999, Tim Berners-Lee [3], father of the World Wide Web (WWW) speaking of the WWW stated that he saw it as “an information space through which people can communicate; but communicate in a special way: communicate by sharing their knowledge in a pool. The idea was not that it should be a big browsing medium. The idea was that everybody would be putting their ideas in as well as taking them out.”*

A Wiki is in Ward Cunningham's [43] original description:

*“The simplest online database that could possibly work.”*

Direct quotation indicated by quotation marks and indentation; source stated.

# quoting

- Avoid excessive quotation.
- Quotation is only appropriate
  - where you want to comment on the statements made by someone else
  - where the quote is of some historical significance
- In all other cases, use your own words

# evidence and support

Example taken from a student's text:

*Intelligent agents, autonomous or semi-autonomous systems that take decisions and perform tasks in complex, dynamically changing environments, revolutionized the field of AI.*

- This is stating an **opinion** not a generally known and accepted **fact**
- As such it needs **support** which it currently lacks
- **Support** could be provided by some **statistical evidence** or by a **reference**
- (Made-up) example of **statistical evidence**:

*The concept of intelligent agents was first introduced in 1983. By 2003, more than half of all papers published in the main forums of AI, referred to the concept or made use of intelligent agents, and it has spawned a world wide industry worth 5 billion US\$ [2].*

where [2] is a reference to the source of these statistics.

# evidence and support

Example taken from a student's text:

*To deal with information in the web environment what is needed is a logic that supports modes of reasoning which are approximate rather than exact.*

- Again, this is stating an **opinion** not a generally known and accepted **fact**
- **Support** could be provided by an **argument** or by a **reference**
- A **reference** could point to a scientific paper where this opinion is stated and argued for
- An **argument** could be an **example** illustrating the advantage of approximate over exact reasoning  
If that example is taken from a source, then again that source needs to be referenced

# evidence and support

Example taken from a student's text:

*To deal with information in the web environment what is needed is a logic that supports modes of reasoning which are approximate rather than exact.*

Better formulation:

*It has been argued by Oberschlau [1] that to deal with information in the web environment what is needed is a logic that supports modes of reasoning which are approximate rather than exact.*

or

*According to Oberschlau [1], to deal with information in the web environment what is needed is a logic that supports modes of reasoning which are approximate rather than exact.*

# evidence and support

Example taken from a student's text:

*Therefore, once our system is enhanced with our common knowledge about things we know, [it] could be seen as an intelligent entity. A brilliant example is the Cyc knowledge base.*

- The phrase 'brilliant example' is ambiguous:  
'Cyc a system incorporating common knowledge and it is a good example of such a system' versus  
'Cyc is a brilliant system incorporating common knowledge'
- Both readings require support, in particular, the second version

# evidence and support

- As Lenat (1995) has noted in an earlier paper, Cyc is a brilliant system.
- Lenat (1995) demonstrates that Cyc is a brilliant system.
- Cyc is a brilliant system (Lenat 1995).

In the sentences above, the author **agrees** with Lenat (1995)

- Lenat (1995) alleges that Cyc is a brilliant system.
- Lenat (1995) claims that Cyc is a brilliant system.

In the sentences above, the author **disagrees** with Lenat (1995)

- Lenat (1995) states that Cyc is a brilliant system.

In the sentence above, the author is **neutral** with regard to the truth of the statement 'Cyc is a brilliant system'

# evidence and support

Example taken from a student's text:

*The most popular ways to compress data are the Huffman coding and Shannon-Fano coding.*

- It is unclear on what basis compression methods are judged to be 'popular'
  - number of compressed files
  - number of users of compression software
  - number of developers of compression software
- In each case, **statistical** evidence seems to be required, e.g.

*In 2004, 60% of all compressed files were compressed using the Huffman coding or Shannon-Fano coding [3].*

where [3] is reference to the source of these statistics.

# End of part 8

- *plagiarism*
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Research Methods in Computer Science

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University of Liverpool