writing code

summarizing

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collaboration

Academic Integrity

at the

Massachusetts

Institute of Technology:

A Handbook

for Students

MIT

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Introduction

Academic Integrity at MIT

> You are a student at the Massachusetts Institute of Technology because of your demonstrated intellectual ability and because of your potential to make a significant contribution to human thought and knowledge. At MIT, you will be given unusual opportunities to do research and undertake scholarship that will advance knowledge in your fields of study. You will also face many challenges.

As the world becomes more complex, scientists and engineers, as well as humanists, social scientists, architects and planners, need to be able to communicate what they know both to each other and to the public. One of MIT's goals is to graduate articulate men and women who will be able to take their expertise into the world and communicate it effectively. During your academic life at MIT, you will be required to complete assignments based on oral communication and writing, some of which will require research in libraries and laboratories and accessing electronic resources.

MIT anticipates that you will pursue your studies with purpose and integrity. The cornerstone of scholarship in all academic disciplines is honesty. MIT expects that you will approach everything you do here honestly – whether solving a math problem, writing a research or critical paper, or writing an exam.

Some of you may be coming from educational systems where rules of academic integrity were not clearly defined or enforced. Others may be studying in the United States for the first time. To ensure that all MIT students understand the high academic standards of the Institute, we have prepared this handbook to help guide you when you approach the research and writing tasks your courses will demand of you.

This handbook outlines important information you will need to know about correctly acknowledging your sources when you write a report, research paper, critical essay, or position paper. It also provides guidelines for collaboration on assignments and for writing original computer code. It does not address all issues related to integrity in your work at MIT, especially various research ethics issues, which often are field-specific. Your research supervisor and department are important sources of information concerning these questions.

You should note that this handbook provides information about what constitutes violations of academic integrity and what the consequences of committing such violations are. Please familiarize yourself with this material before you begin work in your classes, and use it as a resource when you have questions — at MIT and beyond. Ignorance is never an excuse for academic dishonesty.

Doing Original Work at MIT

During your academic life at MIT, you will be asked to do assignments that require research and experimentation. You will also be asked to solve science and math problems that require original thinking. In some classes, you will be required to write papers for which you will need to do research in books, journals, electronic media, and other sources.

One of the challenges of good scholarship is to take what has already been done, said, or argued, and incorporate it into your work in an original way. To some students, this task may seem unnecessarily redundant: a student writing a paper on the benefits of stem cell research may ask, "If the positive aspects of this research have already been argued, why do I need to do it again?" The answer is that

- your way of presenting the information and arguing it will be different from that of others and is therefore valuable; and

- as more recent information on your subject becomes available, you have the opportunity to bring this information into your report or argument, adding new dimensions to the discussion.

Sometimes the goals of academic writing may seem contradictory.

On the one hand, we ask you to		
• Find what is written on a topic and report it, demonstrating you have done your research,	BUT	write about the topic in an original way.
• Bring in opinions of experts and authorities,	BUT	do more than simply report them; comment on these opinions, add to them, agree or disagree with them.
• Notice articulate phrasing and learn from it, especially if you are trying to enhance your capability in English,	BUT	use your own words and/or quote directly or paraphrase accurately when you incorporate this into a paper.

Academic writing is a challenge. It demands that you build on work done by others but create something original from it. The foundation of good academic work – in research and in writing — is honesty. By acknowledging where you have used the ideas, work, or words of others, you maintain your academic integrity and uphold the standards of the Institute and of the discipline in which you work.

Violations of Academic Integrity

MIT will ask much of you. You may find yourself short of time, with several assignments due the same day. Pressure can be intense. On page 22, we will discuss ways to manage your time so as to prevent yourself from becoming overwhelmed. No matter what the level of stress you may find yourself under, however, you must not commit acts of academic dishonesty. Such acts include but are not limited to:

> ## Cheating

- using material not permitted by the instructor during exams, including stored information on electronic devices.
- copying answers from another student on exams or assignments.
- altering graded exams or assignments and submitting them for re-grading.
- submitting the same paper for two classes.

> ## Plagiarism

- copying ideas or taking exact wording from published sources without indicating – using quotation marks or other conventions — where the words came from.
- paraphrasing from sources without indicating where the information came from.
- copying from another student and submitting the work as your own.
- buying a paper or having someone write a paper for you.

> ## Unauthorized Collaboration

- collaborating beyond the extent specifically approved by the instructor.

> ## Facilitating Academic Dishonesty

- allowing another student to copy an assignment or problem set that is supposed to be done individually.
- allowing another student to copy answers during an exam.
- taking an exam or completing an assignment for another student.

Violations of academic integrity carry serious consequences. **You may fail the assignment, fail the course, and/or be suspended from the Institute or expelled, forfeiting your degree.**

The procedure for disciplinary action is outlined in MIT's Policies and Procedures. This may be found on the Web at http://web.mit.edu/policies/10.2.html

Violations of Academic Integrity: What are the consequences?

The consequences of cheating, plagiarism, unauthorized collaboration, and other forms of academic dishonesty are serious. Academic dishonesty may result in suspension or expulsion. Faculty members will decide how to handle violations of academic integrity on a case-by-case basis:

- In some cases a faculty member will resolve the matter directly with the student. If academic dishonesty is found, the faculty member may fail the student on the paper, problem set, or exam, or the faculty member may fail the student in the class.

- Whether or not the faculty member assigns a failing grade on a specific piece of work or in a subject, the faculty member may write a letter that will be placed in the student's file in the Office of Student Citizenship (OSC) or send the case to the Committee on Discipline (COD).

- A letter to file specifies the nature of the academic dishonesty engaged in by the student. The student receives a copy of this letter and may appeal the letter to the COD. If the student does not appeal, or if the appeal to the COD is unsuccessful, the letter stays in the student's file in the Office of Student Citizenship (OSC) until five years after graduation. No notation appears on the internal or on the external official transcript for a first offense. A subsequent case of academic dishonesty after placement of this letter in the student's file will be treated as a second offense and result in the case's being heard by the COD.

- A faculty member may submit a formal complaint to the COD regarding any matter of academic dishonesty. The COD will then adjudicate the case. Detailed guidelines to the steps followed in every case may be found at http://web.mit.edu/committees/cod/

The entire MIT community is diminished by violations of academic integrity. Such violations damage not only your reputation, but that of the Institute.

Avoiding Plagiarism: Citing Sources

During your academic career at MIT, you will write original papers and give oral presentations that require research. It is important to understand that notions concerning reusing other people's creative output vary from discipline to discipline and culture to culture. For example, in the United States our copyright law does not protect ideas or facts, but does protect the particular, original expression of an idea in words or images when they are expressed in a tangible form.

In some cultures, the concept of "owning" words that are arranged in a particular sequence may seem strange. Students from these cultures may have been encouraged to repeat the words of others and incorporate them into their own writing without quoting or otherwise indicating that they came from another source. Other cultures accept the practice of copying phrases or sentences into a paper without using quotation marks as long as the writer shows where they came from. **These practices not acceptable in North American culture.**

Creative expression of ideas through words, images, and other media is the lifeblood of our academic culture. For this reason, we expect that our original expressions should not be used by others without attribution and acknowledgment. If you copy, borrow, or appropriate another's work and present it as your own in a paper or oral presentation – deliberately or by accident – this act is considered **plagiarism**.

What is plagiarism?

Plagiarism occurs when you use another's words, ideas, assertions, data, or figures and do not acknowledge that you have done so.

If you use the words, ideas, or phrasing of another person or from published material, you must

- Use quotation marks around the words **and** cite the source, or

- Paraphrase or summarize acceptably **and** cite the source.

If you use charts, graphs, data sets, or numerical information obtained from another person or from published material, you must also **cite the source**.

Whether you quote directly or paraphrase the information, you must acknowledge your sources by **citing them**. In this way, you have the right to use another's words by giving that person credit for the work s/he has done.

Avoiding Plagiarism:
Specifics on Citing Sources

What does it mean to "cite" a source?

In writing a paper, it means:

- You show, *in the body* of your paper, where the words or information came from, using an appropriate format,

and

- You provide complete information about the source (author, title, date, etc.) using an appropriate format, in a bibliography or footnote.

In giving a formal presentation, it means:

- You acknowledge, *on your slide*, where the graph, chart or other information came from.

Why should I cite my sources?

- To show your readers that you have done your research.

- To give credit to others for work they have done.

- To point your readers to sources that may be useful to them.

- To allow your readers to check your sources, if there are questions.

Citing sources points the way for other scholars. You may cite a source that is of particular interest to a reader who wants to read more on your subject. Your citation will help that reader locate the information quickly.

What should I cite?

- **Print sources:** books, journal articles, magazine articles, newspapers – any material published on paper.

- **Electronic sources:** web pages, articles from online newspapers and journals, articles retrieved from databases like LexisNexis and ProQuest, government documents, newsgroup postings, graphics, E-mail messages, and web logs (i.e., any material published or made available on the Internet).
You can access services like these through the MIT Libraries at:
http://libraries.mit.edu/vera/. For assistance in using them, contact the Libraries' Ask-Us! service at: http://libraries.mit.edu/ask-us/.

- **Recorded material:** television or radio programs, films, filmed discussions, panels, seminars, interviews, or public speeches.

- **Spoken material:** personal conversations, interviews, information obtained in lectures, poster sessions, or scholarly presentations of any kind.

- **Images:** charts, graphs, tables, data, illustrations, architectural plans, and photographs.

Using the Internet:
A Special Note

The Internet has made academic research much easier than it used to be. Databases have been created that compile much of the published material relevant to a certain field, saving you valuable time. You can download pdf files or have articles sent to you by email.

Yet the Internet poses special problems. Because it is relatively new and because so much of what appears on the Internet does not indicate the author's name, people tend to think the information they find there is "free" and open for the taking. **Everything on the Internet has been written by someone**. The author may be an organization or an individual, but there is an author – or at least, a traceable source.

This source may usually be found in the heading at the top of the web page or its sponsoring organization, such as The World Health Organization or The United Nations. If no traceable source exists – i.e., you cannot identify an author or a sponsoring organization whose reliability you can check — then you must be careful. The information may be merely someone's opinion, not verified by facts or evidence, and you should not use it.

Students commonly use the Internet to access the following:

- Articles originally published in print media that are now available online through subscription services like LexisNexis or ProQuest.
  You can access services like these through the MIT Libraries at:
  http://libraries.mit.edu/vera/. For assistance in using them, contact the Libraries' Ask-Us! service at: http://libraries.mit.edu/ask-us/.

- Articles published in online journals or newspapers.

- Web pages or web sites sponsored by reliable institutions.

Treat the information you find electronically the way you would treat it if it were printed on paper. If you quote, paraphrase, or summarize, cite your source as you would an article in a journal or newspaper. Do the same for a web site or web page. Follow the guidelines in the style guide you are using.

Always look for the author's name and credentials, or for the name of the sponsoring institution. **If you cannot locate this information or you are not sure of the reliability of the institution, do not use the information.** Anyone can post information on the Internet. Thus, much of it may not be reliable.
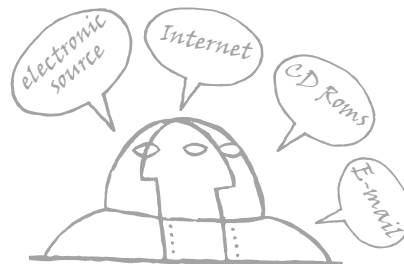
Using the Internet (continued)

What to look for on a website

> • **Name of the author:**

Is the author a recognized authority? Or is the author a student who has posted his or her paper online? If the latter, this person is probably not a recognized authority, and you should not use the information.

> • **Name of the website:**

Does the name of the site tell you anything about the information source? Is it that of a reliable news or information agency?

> • **Name of the institution sponsoring the website:**

Is the sponsoring institution a name that you recognize as a reliable, unbiased source of information? Examples: The World Health Organization, The United Nations, The American Medical Association.

> • **Date of publication or posting:**

Was the site recently updated? Is the information current?

Improper Use of Internet Sources

Remember that information on the Internet is not "free." It should always be paraphrased, quoted, or summarized appropriately.

- Do **not** cut and paste text directly from the Internet into your paper unless you quote directly and **cite**.

- Do **not** cut and paste images or graphics from the Internet into your paper unless you **cite** your source.

Finding and Evaluating Internet Sources

The MIT Libraries provide excellent guidance on finding and evaluating internet sources

- You can consult http://libraries.mit.edu/quality-web for advice on finding good web sites.

- You can also consult one of our many subject specialists who have expertise in finding web resources and a lot more. They are listed at http://libraries.mit.edu/ask-us/experts.html.

- If you not sure where to start or who to ask for help, try the Libraries Ask – Us! Service, http://libraries.mit.edu/ask-us/.

Citing Electronic Sources

The Internet changes constantly. For this reason, your citations must always include the date you accessed the site and the date of the posting, if it is available. Each style guide format is different, but in each case you are expected to provide as much information as possible about the site.

The important fact to remember is that you should treat information you receive electronically **the same way you would treat it if it were printed on paper.**

> **How do I cite a web page?**

As noted before, look for relevant information:

name of author, if there is one	date of electronic publication or update
title of article or section	date you accessed the site
heading of web page	URL
name of sponsoring organization	

The following examples use the citation style of the American Psychological Association (APA). Other citation styles are listed on page 24.

> **How do I cite an article with an author from an online news source?**

Shanker, T. and Schmitt, E. (2005, July 6). Pentagon weighs strategy to deter terror. *The New York Times On the Web.* Retrieved July 6, 2005 from http://www.nytimes.com

> **How do I cite an article with no listed author that appears on the web page of an organization?**

Somalia launches emergency polio immunization. (2005, July 17). *World Health Organization Home Page.* Retrieved July 17, 2005 from http://www.who.int/en

> **How do I cite an example from an online dictionary?**

Editors of Columbia University Press. (January 2004). Anthrax. *The Columbia Encyclopedia,* 6th ed. Retrieved July 7, 2005 from http://www.bartleby.com/65/an/anthrax.html

> **How do I cite an article retrieved from a database? (LexisNexis, ProQuest)**

Holbrooke, R. (2004, February 10). A global battle's missing weapon. *New York Times.* Retrieved April 4, 2004 from LexisNexis Academic Universe database.

> **How do I cite information from a government publication I obtain online?**

U.S. Food and Drug Administration. (2005, June 4). FDA tentatively approves a generic AIDS drug under the president's emergency plan for AIDS relief. *FDA News.* Retrieved July 19, 2010 from http://www.fda.gov/NewsEvents/Newsroom/ PressAnnouncements/2005/ucm108440.htm

Avoiding Plagiarism:
Quoting

When the words of an expert, authority, or relevant individual are particularly clear or expressive, you may want to quote them. Do **not** quote all the time: save quotes for instances where the wording is especially powerful.

When should I quote?

- When language is particularly vivid or expressive.
- When exact wording is needed for technical accuracy.
- When the words of an important authority lend weight to an argument.

How do I show I am quoting?

- Name the source in an introductory phrase.
- Use quotation marks or indent long quotations.
- Cite the source appropriately.

If you fail to do this, it is **plagiarism**.

Original source	Accurate quoting	Plagiarism
Because of their unique perspective, Americans fear globalization less than anyone else, and as a consequence they think about it less than anyone else. When Americans do think about globalization, they think of the global economy as an enlarged version of the American economy.	Lester Thurow (1993) asserts that the American reaction to globalization is different from that of the rest of the world in that "Americans fear globalization less than anyone else, and as a consequence . . . think about it less than anyone else" (p. 6).	The American view of globalization is unlike that of the rest of the world. **Because of their unique perspective, Americans fear globalization less than anyone else, and therefore think about it less than anyone else** (Thurow, 1993).
	Why is this accurate?	**Why is this plagiarism?**
Thurow, L. (1993). *Fortune Favors the Bold* (p. 6). New York: Harper Collins.	The writer has introduced the quotation with his/her own words and has indicated where exact words of the source begin and end. S/he has also named the source in an introductory phrase. (Complete Thurow reference appears in bibliography)	Although the writer has identified the source, s/he has **not** put quotation marks around his words, thereby allowing the reader to think the words are the writer's, not Thurow's.

Avoiding Plagiarism: Paraphrasing

Plagiarism is sometimes unintentional. It can occur when you try to put information from a source into your own words, but fail to do so completely. Often plagiarism occurs not because a student is trying to cheat, but because he or she has not been taught how to paraphrase accurately. Paraphrasing takes skill and practice.
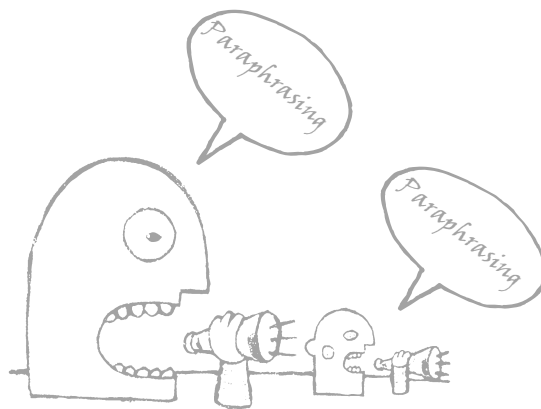
In writing papers, you will paraphrase more than you will quote. For a report or research paper, you may need to gather background information that is important to the paper but not worthy of direct quotation. Indeed, in technical writing direct quotation is rarely used.

Exactly what does "paraphrase" mean?

It means taking the words of another source and restating them, using your own vocabulary. In this way, you keep the meaning of the original text, but do not copy its exact wording. For the benefit of students who may not have had practice paraphrasing from sources, the following guidelines may be useful.

What strategies can I use to paraphrase?

- **Use synonyms** for all words that are not generic.
  Terms like *people, world,* or *food* are so common that it is often difficult to find a synonym.

- **Change the structure** of the sentence.

- **Change the voice** from active to passive and vice versa.

- **Reduce clauses** to phrases.

- **Change parts of speech.**

- **Cite your source.**

Examples: Plagiarism versus Paraphrasing

Original source	Plagiarism	Paraphrase
Because of their unique perspective, Americans fear globalization less than anyone else, and as a consequence they think about it less than anyone else. When Americans do think about globalization, they think of the global economy as an enlarged version of the American economy. Thurow, L. (1993). *Fortune Favors the Bold* (p. 6). New York: Harper Collins.	According to Lester Thurow (1993), Americans **fear globalization less** than people from other countries and **as a consequence** spend less time **thinking about it.** Indeed, Americans see globalization **as an enlarged version of** their own economy. **Why is this plagiarism?** The writer has used Thurow's exact words without enclosing them in quotation marks. S/he has only substituted synonyms here and there. Even though Thurow is credited with a citation, this would be considered **plagiarism**.	Lester Thurow (1993) maintains that because Americans see globalization simply as a bigger form of their own economy, they are less concerned about it than is the rest of the world. **Why is this acceptable?** The writer has kept the meaning of the original passage without copying words or structure. Words like *globalization* and *Americans* are generic terms (i.e., terms that are commonly used for the concept they illustrate – it is difficult to find synonyms for them). Thus you may use these words without placing them in quotation marks. (Complete Thurow reference appears in bibliography)

Original	Acceptable Paraphrase #1	Acceptable Paraphrase #2
We do not yet understand all the ways in which brain chemicals are related to emotions and thoughts, but the salient point is that our state of mind has an immediate and direct effect on our state of body. Source: Siegel, B. (1986). *Love, Medicine and Miracles* (p. 69). New York: Harper and Row.	Siegel (1986) writes that although the relationship between brain chemistry and thoughts and feelings is not fully understood, we do know that our psychological state affects our physical state. **Why is this acceptable? What did the writer do?** • Used synonyms • Changed sentence structure • Changed voice • Cited source Words like *brain* are generic and do not need to be changed.	Siegel (1986) writes that the relationship between the chemicals in the brain and our thoughts and feelings remains only partially understood. He goes on to say, however, that one thing is clear: our mental state affects our bodily state. **Why is this acceptable? What did the writer do?** • Used synonyms • Changed sentence structure (used two sentences instead of one) • Changed voice • Changed parts of speech • Cited source Words like *brain* and *chemicals* are generic and do not need to be changed.

As you can see, a good paraphrase combines a variety of strategies. Be very careful not to use only one strategy — **replacing words with synonyms is not enough. Look at the following example of unacceptable paraphrase:**

Original	Unacceptable Paraphrase
We do not yet understand all the ways in which brain chemicals are related to emotions and thoughts, but the salient point is that our state of mind has an immediate and direct effect on our state of body.	Siegel (1986) writes that **we** still **do not** know **all the ways in which** brain chemistry is **related to emotions and thoughts, but the** important **point is that our** mental state **has an immediate and direct effect** on our physical state. Why is this unacceptable? • The writer has kept the same exact sentence structure. • The writer has only substituted synonyms in certain places; in others the wording is exactly the same as that of the original. Even though the writer mentions the original source in the introductory phrase, the result is **plagiarism**.

Avoiding Plagiarism: Summarizing

Summary and paraphrase are somewhat different. A paraphrase is about the same length as the original source, while a summary is much shorter. Nevertheless, when you summarize, you must be careful **not to copy the exact wording** of the original source. Follow the same rules as you would for paraphrase.

Choosing Whether to Quote or to Paraphrase

Sometimes students are not sure when to quote directly and when to paraphrase. As we said before, quote only if the language is particularly expressive and/or adds weight to your argument.

Sources:
Katz, J. (1999, May 13). Retrieved July 6, 2005 from http://wuphys.wustl. edu/~katz/naturefooled. html

Example of a good use of quotation:

> After the Challenger disaster of 1986, it was learned that NASA was so anxious to launch the shuttle that it had overlooked certain safety measures. Nobel physicist Richard Feynman later observed that "for a successful technology, reality must take precedence over public relations, for nature cannot be fooled" (cited in Katz, 1999).
>
> **Feynman's credentials and the fine wording of his comment deserve quotation here.**

National Brain Tumor Foundation: connection between cell phone use and brain tumors studied. (2005, July 9). *Law and Health Weekly*. Retrieved July 10, 2005 from LexisNexis Academic Universe database.

Example of unnecessary quotation – paraphrase would be better:

> The World Health Organization is conducting a study on the connection between cell phone use and brain cancer. Until the study is published, the World Health Organization "suggests that persons concerned about cell phone use can limit the length of calls, use a hands-free device to keep cell phones away from the head and body, and avoid using cell phones while driving" (National Brain Tumor Foundation, 2005).
>
> **The wording of this information is not particularly noteworthy. In this case, it would be better to paraphrase:**
>
> The World Heath Organization is conducting a study on the connection between cell phone use and cancer. Until the results are published, the WHO recommends that those who may be worried about such a link keep their calls short, curtail phone use while on the road, and use hands-free equipment to maintain distance between the phone and the user (National Brain Tumor Foundation, 2005).

Avoiding Plagiarism: Citing Facts and Statistics

Any time that you refer to facts, statistics, or other specific information pertinent to your topic, you must tell your reader where you got them; that is, you must cite your source. Not all pieces of specific information need to be cited, however. If the information is "common knowledge," you do not need to cite it.

What is common knowledge?

> Common knowledge is any information that the average, educated reader would accept as reliable without having to look it up.

This includes:

- **General information that most people know**, such as that water freezes at 32 degrees Fahrenheit.

- **Information shared by a cultural group**, such as the dates of national holidays or names of famous heroes.

- **Knowledge shared by members of a certain field**, such as the fact that the necessary condition for diffraction of radiation of wavelength λ from a crystalline solid is given by Bragg's law.

This situation can be tricky, however. What may be common knowledge in one culture — or in one specific group of people — may not be common knowledge in another. For example, the following would be considered common knowledge to an audience educated in the United States:

- The American Space Shuttle Challenger exploded shortly after taking off, killing all its crew and passengers.

- Global warming has become a concern of scientists all over the world; in response, many nations have sought to introduce policies to reduce the emission of greenhouse gasses.

- Patrick Henry's statement, "Give me Liberty, or Give me Death!" became a rallying cry for the American Revolution.

The specific dates, facts, and trends referred to above comprise information the average, educated reader would know. It is highly unlikely that anyone would challenge these statements. Thus, they do **not need to be cited**.

Avoiding Plagiarism:
Citing Facts and Statistics (continued)

Deciding when to cite may also depend on audience.

An engineering student writing for an engineering audience could write the following and assume that the information would be common knowledge to his or her peers:

> The development of structural steel and the invention of the elevator made it possible for tall office buildings to be built. Before that time, large buildings had to be supported by their own walls.

However, the same student writing for a general audience should cite his or her source, as this information would not be common knowledge to the average reader.
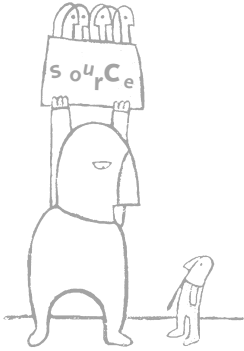
What is **not** common knowledge? What needs to be cited?

- **All statistics, data, figures.**

- **References to studies done by others.**

- **References to specific facts the average reader would not know about unless he or she had done the research.**

The following are examples of statements that need citation:

- Between 1990 and 2002, the United States was the recipient of $1.27 trillion in direct foreign investment. This amount is more than the combined total received by the United Kingdom, France, Germany and Japan.

- In the last thirty years, discussion has focused on the possible link between overhead power lines and cancer in children. Researchers have investigated whether a connection exists between the low magnetic fields produced by power lines and childhood leukemia, but the evidence remains inconclusive.

- The free energy of mixing per site for a binary polymer blend with differing degrees of polymerization can be described through the Flory-Huggins equation.

Each of these statements contains information that would not be known to the average reader. The last equation is specific to the thermodynamics of macromolecular mixtures and would not be considered common knowledge by many scientists or engineers. Therefore, the best advice is: **When in doubt, cite your source**.

Sources:

Thurow, L. (1993) *Fortune Favors the Bold* (p. 199). New York: Harper Collins, 2003.

Power lines and cancer. (2005, June 4). *The Economist Online*. Retrieved June 4, 2005 from http://www.economist.com/

Flory, P.J. (1953). *Principles of Polymer Chemistry*. Ithaca, NY: Cornell University Press.

Avoiding Plagiarism: Writing Code

Plagiarism can also occur when you write code.
The following program appears on page 118 of the textbook *Algorithms in C* (Addison Wesley, New York. 1990).

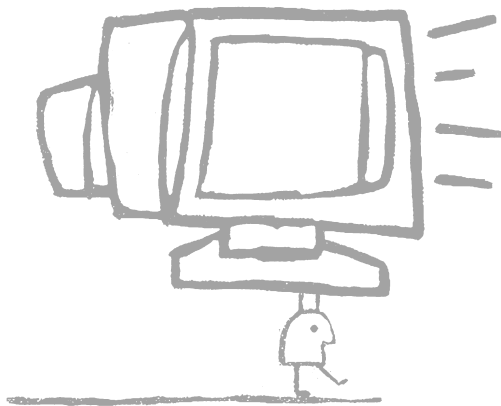**Source:**
```
quicksort (int a [ ], int l, int r)
{
 int v, i, j, t;
 if (r > 1)
   {
      v = a [ r ]; i = 1-1; j = r;

      for ( ; ; )
        {
              while (a [++i ] < v) ;
              while (a [--j] > v);
              if (i >= j) break;
              t = a [i]; a [i] = a [j]; a [j] = t;
        }
      t = a [i]; a [i] = a [r]; a [r] = t;
      quicksort (a, l, i-l);
      quicksort (a, i+l, r);
   }
}
```

The next page provides examples of how this program was plagiarized.

Examples: Plagiarised Code

Unacceptable example 1

```
mysort (int data[], int x, int y){
(B)=(A);}
    int pivot;
    int i, j;
    int temp;

    if (y > x){
        pivot = data[y]; i = x-l; j = r;
        while (1){
            while (data [++i] < pivot);
            while (data [--j] > pivot);
            if (i >= j) break;
            temp = data [i]; data [i] = data [y]; data [y] = temp;
        }
        temp = data [i]; data [i] = data [y]; data [y] = temp;
        mysort (data, x, i-1);
        mysort (data, i + 1, y);
    }
}
```

This example is plagiarism because the student has borrowed the structure of the original program exactly, while changing only a few details that do not affect the meaning of the program. Though the program looks different to the untrained eye, it has exactly the same meaning as the original program. The student has made the following changes:

- Changed the names of variables: a, l, r, v, and t = data, x, y, pivot, and temp (respectively)
- Replaced the construct "for (;;)" with the equivalent construct "while (1)"
- Changed the name of the procedure from "quicksort" to "mysort"
- Changed the indentation and the division of program elements between lines

Unacceptable example 2

```
#define Swap(A,B) { temp=(A); (A)=(B);

void mysort (const int* data, int x, int y){
    int temp;
    while (y > x){
        int pivot = data[y];
        int i = x-1;
        int j = r;
        while (1){
            while (data [++i] < pivot){/*do nothing*/}
            while (data --j] > pivot){/*do nothing*/}
            if (i >= j) break;
            swap (data [i], data [y]);
        }
swap (data [i], data [j]);
        mysort (data, x, i-1);
        x = i+1;
    }
}
```

This example is also plagiarism.
The student has made more changes to the program than in the first example, and some of this student's changes are even improvements to the program. Nevertheless, this student's program is clearly derived from the program in the textbook. The student's action in this case can be compared to paraphrasing a passage from a reference book.

Test: What is common knowledge?

Which of these statements would be considered common knowledge? Which need to be cited? (Answers appear at the bottom of the page.)

1. When water passes through rocks that contain arsenic, the arsenic may leach into the water, poisoning it. This issue has been a particular problem in Bangladesh.

2. Stability in windstorms and vibration damping are important for high-rise structures; continuous wind-induced vibrations can be more dangerous for a structure than those of an earthquake.

3. Stem cell research offers promise in the development of treatments for certain kinds of diseases.

4. Some have argued that the benefits of the Internet have reached all levels of society, while others point to the fact that a 1999 study revealed that Internet access is closely tied to income levels, with households earning $75,000 or more having the highest rate of access.

Sources:

1. Arsenic in drinking water. (2001, May). *World Health Organization*. Retrieved August 8, 2005 from http// www.who.int/mediacentre/ factsheets/fs210/en

2. Schleicher, S. (2007). Smart structures: concepts for wind-adaptive high-rise facades. (Paper submitted for course 21F 227).

4. United States Deptartment of Commerce. (1999, July). *Falling through the net: defining the digital divide*. Retrieved July 5, 2005 from http://www.ntia.doc.gov/ ntiahome/fttn99/contents.html

Answers:

1. Yes, citation is needed. In particular, the specific reference to Bangladesh makes this information something that the average reader would not know unless he or she had done the research.

2. No, citation is not needed. Issues of structural stability are widely reported in the popular press and have been observable historically.

3. No, citation is not needed. This information is widely known.

4. Yes, citation is needed. The specific reference to a 1999 study and the figure that is mentioned is something the average reader would not know unless he or she had done the research.

Collaboration

Collaborative work is vital to the spirit and intellectual life of the Institute. In some classes, you will be encouraged to collaborate with other students on problem sets, projects, or papers. The amount of collaboration will vary from class to class. **Find out from your instructor how much collaboration is permitted.** The details may be clearly stated in the course handouts. If they are not, ask your instructor to be specific about how much collaboration he or she allows. Make sure you know where to draw the line between collaboration and what could be considered cheating.

The following example shows the collaboration guidelines for one class:

> **Collaboration Policy for 3.014, Materials Laboratory – Fall Term 2004**
>
> In preparing your reports, you are encouraged to *discuss* your results with your lab-mates. *Data and figures may be shared* between students in your lab group for the purpose of preparing your report, provided *proper acknowledgment* is made in your reports.
>
> <u>All</u> **writing in 3.014 must be original.** Students should not copy any portion of their laboratory reports from reference materials or the reports of other students. Students should <u>not</u> use reports from previous years or their lab mates' reports in preparing their own reports. 3.014 has a zero tolerance policy on plagiarism. Any student caught plagiarizing will receive a grade of zero on the assignment and be taken to the Committee on Discipline (COD) for disciplinary action.
>
> You are responsible for knowing what acts constitute plagiarism. For an overview on plagiarism please refer to the URL: http://libraries.mit.edu/plagiarism. If you have any doubt about how/when to properly cite or use a source, contact Professors Mayes or Stellacci to obtain clarification.

Used with permission of Professor Anne Mayes, Dept. of Material Science, MIT.
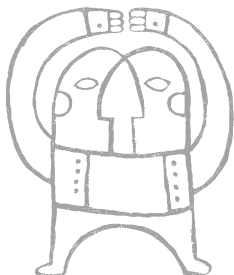
Good Work Habits:
Study, Research and Writing

Academic work at MIT is rigorous. Much will be asked of you, and many demands will be made on your time. Occasionally, you may feel overwhelmed by the amount of work you need to accomplish. In such situations, you may be tempted to cut corners, risking violations of academic integrity.

You can avoid this scenario by doing the following:

> **1. Manage your time.**

- Plan ahead: find out when assignments are due and mark them on a calendar. Do not try to do them at the last minute.

- Set a certain amount of time apart each day for each course.

- Make a work schedule for yourself and try to keep to it.

- If you cannot meet a deadline, **talk to the instructor.** Most MIT instructors are reasonable. We would much rather have you ask for an extension than cut corners by being academically dishonest.

> **2. Take careful notes.**

Recently, several famous scholars have been accused of plagiarism. Several cited bad note-taking practices as the cause of their mistakes: in taking information from another source, these writers had copied several sentences without putting them in quotation marks. When they transferred these notes into their own text, they believed the sentences were their own and presented them as such. The result was **plagiarism**.

Such inadvertent plagiarism can be avoided by taking careful notes:

- Write down the page number, author, and title of each source every time you make a note. **Do this whether you paraphrase, quote, or jot down useful facts and figures.**

- Put quotation marks around any exact wording you take from a source.

- Paraphrase accurately (see Avoiding Plagiarism: Paraphrase, p. 12).

- Keep a running list of all sources: articles, books, online sources and their URLs.

> **3. Ask for help.**

If you feel confused about the work in class or unclear about an assignment, you have several options:

- **Talk to the professor or instructor.**
  Make an appointment to see him or her outside of class. If you cannot schedule an appointment within the posted office hours, send the instructor an email requesting another time.

- **Use office hours.**
  Seek help with assignments during office hours. Faculty at MIT often comment that students do not use this opportunity enough. Office hours provide the opportunity for additional contact with faculty, not only to seek their help but to get to know faculty better and to give them the chance to know you.

Good Work Habits (continued)

- **Talk to the Teaching Assistant (TA).**
  TAs have office hours. Many make themselves available any time, via email. Use this option to get help if you need it. TAs expect to be contacted; it is part of their job.

- **Seek the help of your academic advisor.**
  If you have a problem you do not feel comfortable talking about with your instructor, talk to your academic advisor.

> ## 4. Use the Writing and Communications Center.

The Writing and Communications Center is located in the basement of the Stata Building (Stata 32-081). You can make an appointment online for a one-hour session with a trained writing tutor who will help you with your writing assignments. The Center also provides practice and feedback on oral presentations. Many tutors are knowledgeable about the particular needs of non-native English speakers, and all tutors are experienced with work MIT students are required to do.

There is no charge to use the Center. Make an appointment online and visit the site:

> http://writing.mit.edu/wcc or http://web.mit.edu/writing/

> ## 5. Use the MIT Libraries.

The MIT Libraries offer both search tools and resources to help you with your research. Subject experts can also save you time by recommending the best places to start your search or answer questions at any stage of the research process. They can also point you to the proper manual or website when you have a question about a particular citation style.

Databases and E-Journals
http://libraries.mit.edu/vera/

Barton Library Catalog - Books and More
http://libraries.mit.edu/barton

Library Subject Experts
http://libraries.mit.edu/ask-us/experts.html

Don't Know Where to Start?
http://libraries.mit.edu/ask-us/

> ## 6. Use the Office of Undergraduate Advising and Academic Programming.

The Learning to Learn website provides insight, tools and advice on study skills as well as tips for academic success:
http://web.mit.edu/uaap/learning/index.html

Several UAAP programs provide personal and academic support and learning opportunities:

http://web.mit.edu/uaap/programs/

> ## 7. Use Student Support Services (S³).

Student Support Services provides advice and advocacy for students facing personal and academic challenges:
http://web.mit.edu/uaap/s3/index.html

Style Guides

Each discipline has a preferred style of formatting. Ask your instructor which style he or she prefers. Each style is usually referred to by its initials. For example,

Modern Language Association Style (MLA) is often used in the arts and humanities;

American Psychological Association Style (APA) is often used in history, economics, psychology, and political science;

Chicago Manual of Style (CMS) is often used in architecture and urban planning;

Council of Science Editors Style (CBE) is often used in biology and other sciences.

> **Links to all information on all styles:**

Bedford/Martin's Research & Documentation Online
http://bcs.bedfordstmartins.com/resdoc5e/

>

The Mayfield Handbook of Technical & Scientific Writing
https://web.mit.edu/course/21/21.guide/www/home.htm

Purdue Online Writing Lab
http://owl.english.purdue.edu/owl

MIT Libraries Citation Style Guides
http://libraries.mit.edu/help/citing.html

Resources

This Academic Integrity Handbook is available on-line at:
http://web.mit.edu/academicintegrity/

Learning to Learn: Academic Integrity
http://web.mit.edu/uaap/learning/teach/integrity/index.html

MIT Libraries Guide on Citing Sources
http://libguides.mit.edu/citing

Student Support Services
http://web.mit.edu/uaap/s3/index.html

Office of Student Citizenship
http://web.mit.edu/citizenship/

MIT Ombuds Office
http://web.mit.edu/ombud/