computer science

[Print](https://www.britannica.com/print/article/279729) Cite Share Feedback

Alternate titles: hypertext markup language

Written by

David Hemmendinger

Fact-checked by

The Editors of Encyclopaedia Britannica

Last Updated: Jan 5, 2023 • [Article History](https://www.britannica.com/technology/HTML/additional-info#history)

[](https://cdn.britannica.com/56/131956-050-047AC714/HTML-hypertext-markup-language-material-Web-browsers.jpg)

HTML

[See all media](https://www.britannica.com/technology/HTML/images-videos)

Related Topics:

[markup language](https://www.britannica.com/technology/markup-language) [anchor](https://www.britannica.com/technology/anchor-computer-programming)

[See all related content →](https://www.britannica.com/facts/HTML)

**HTML**, in full **hypertext markup language**, a formatting system for displaying material retrieved over the [Internet](https://www.britannica.com/technology/Internet). Each retrieval unit is known as a Web page (from [World Wide Web](https://www.britannica.com/topic/World-Wide-Web)), and such pages frequently contain [hypertext](https://www.britannica.com/technology/hypertext) links that allow related pages to be retrieved. HTML is the [markup language](https://www.britannica.com/technology/markup-language) for [encoding](https://www.britannica.com/dictionary/encoding) Web pages. It was designed by the British scientist [Sir Tim Berners-Lee](https://www.britannica.com/biography/Tim-Berners-Lee) at the [CERN](https://www.britannica.com/topic/CERN) nuclear physics laboratory in Switzerland during the 1980s. HTML markup tags specify document elements such as headings, paragraphs, and tables. They mark up a document for display by a [computer program](https://www.britannica.com/technology/computer-program) known as a Web [browser](https://www.britannica.com/technology/browser). The browser interprets the tags, displaying the headings, paragraphs, and tables in a layout that is adapted to the screen size and fonts available to it.

HTML documents also contain [anchors](https://www.britannica.com/technology/anchor-computer-programming), which are tags that specify links to other Web pages. An anchor has the form <A HREF= “http://www.britannica.com”> Encyclopædia Britannica</A>, where the quoted string is the [URL](https://www.britannica.com/technology/URL) (universal resource locator) to which the link points (the Web “address”) and the text following it is what appears in a Web browser, [underlined](https://www.britannica.com/dictionary/underlined) to show that it is a link to another page. What is displayed as a single page may also be formed from multiple URLs, some containing text and others graphics.

[[](https://www.britannica.com/quiz/computers-and-technology)](https://www.britannica.com/quiz/computers-and-technology)

**[Britannica Quiz](https://www.britannica.com/quiz/computers-and-technology)**

[Computers and Technology Quiz](https://www.britannica.com/quiz/computers-and-technology)

[*David Hemmendinger*](https://www.britannica.com/contributor/David-Hemmendinger/5383)

[markup language](https://www.britannica.com/technology/markup-language)

Table of Contents

* [Introduction](https://www.britannica.com/technology/markup-language)

Fast Facts

* [Related Content](https://www.britannica.com/facts/markup-language)

Quizzes

* [Computers and Technology Quiz](https://www.britannica.com/quiz/computers-and-technology)

More

* [Contributors](https://www.britannica.com/technology/markup-language/additional-info#contributors)
* [Article History](https://www.britannica.com/technology/markup-language/additional-info#history)

[Home](https://www.britannica.com/)[Technology](https://www.britannica.com/browse/Technology)[Computers](https://www.britannica.com/browse/Computers)

**markup language**

[Print](https://www.britannica.com/print/article/1323641) Cite Share Feedback

Written and fact-checked by

The Editors of Encyclopaedia Britannica

Last Updated: [Article History](https://www.britannica.com/technology/markup-language/additional-info#history)

Related Topics:

[HTML](https://www.britannica.com/technology/HTML) [SGML](https://www.britannica.com/technology/SGML) [XML](https://www.britannica.com/technology/XML) [DTD](https://www.britannica.com/technology/DTD) [anchor](https://www.britannica.com/technology/anchor-computer-programming)

[See all related content →](https://www.britannica.com/facts/markup-language)

**markup language**, standard text-encoding system consisting of a set of symbols inserted in a text document to control its structure, formatting, or the relationship between its parts. The most widely used markup languages are [SGML](https://www.britannica.com/technology/SGML) (Standard Generalized Markup Language), [HTML](https://www.britannica.com/technology/HTML) (Hypertext Markup Language), and [XML](https://www.britannica.com/technology/XML) (Extensible Markup Language). The markup symbols can be interpreted by a device ([computer](https://www.britannica.com/technology/computer), [printer](https://www.britannica.com/technology/computer-printer), [browser](https://www.britannica.com/technology/browser), etc.) to control how a document should look when printed or displayed on a monitor. A marked-up document thus contains two types of text: text to be displayed and markup language on how to display it.

[*The Editors of Encyclopaedia Britannica*](https://www.britannica.com/editor/The-Editors-of-Encyclopaedia-Britannica/4419)*This article was most recently revised and updated by*[*Erik Gregersen*](https://www.britannica.com/editor/Erik-Gregersen/6723)*.*

[SGML](https://www.britannica.com/technology/SGML)

Table of Contents

* [Introduction](https://www.britannica.com/technology/SGML)

Fast Facts

* [Facts & Related Content](https://www.britannica.com/facts/SGML)

Quizzes

* [Computers and Technology Quiz](https://www.britannica.com/quiz/computers-and-technology)

More

* [More Articles On This Topic](https://www.britannica.com/technology/SGML/additional-info#More-Articles)
* [Contributors](https://www.britannica.com/technology/SGML/additional-info#contributors)
* [Article History](https://www.britannica.com/technology/SGML/additional-info#history)

[Home](https://www.britannica.com/)[Technology](https://www.britannica.com/browse/Technology)[Computers](https://www.britannica.com/browse/Computers)

**SGML**

computing

[Print](https://www.britannica.com/print/article/562957) Cite Share Feedback

Alternate titles: standard generalized markup language

Written by

David Hemmendinger

Fact-checked by

The Editors of Encyclopaedia Britannica

Last Updated: [Article History](https://www.britannica.com/technology/SGML/additional-info#history)

Related Topics:

[markup language](https://www.britannica.com/technology/markup-language) [DTD](https://www.britannica.com/technology/DTD)

[See all related content →](https://www.britannica.com/facts/SGML)

**SGML**, in full **standard generalized markup language**, an international [computer](https://www.britannica.com/technology/computer) standard for the definition of markup languages; that is, it is a metalanguage. Markup consists of notations called “tags,” which specify the function of a piece of text or how it is to be displayed. SGML [emphasizes](https://www.britannica.com/dictionary/emphasizes) descriptive markup, in which a tag might be <emphasis>. Such a markup denotes the document function, and it could be interpreted as reverse video on a computer screen, underlining by a typewriter, or italics in typeset text.

SGML is used to specify [DTDs](https://www.britannica.com/technology/DTD) (document type definitions). A DTD defines a kind of document, such as a report, by specifying what elements must appear in the document—e.g., <Title>—and by giving rules for the use of document elements, such as that a paragraph may appear within a table entry but a table may not appear within a paragraph. A marked-up text may be analyzed by a parsing program to determine if it conforms to a DTD. Another program may read the markups to prepare an index or to translate the document into [PostScript](https://www.britannica.com/technology/PostScript) for printing. Yet another might generate large or [enhanced](https://www.merriam-webster.com/dictionary/enhanced) type or audio for readers with visual or hearing disabilities.

[[](https://www.britannica.com/quiz/computers-and-technology)](https://www.britannica.com/quiz/computers-and-technology)

**[Britannica Quiz](https://www.britannica.com/quiz/computers-and-technology)**

[Computers and Technology Quiz](https://www.britannica.com/quiz/computers-and-technology)

[*David Hemmendinger*](https://www.britannica.com/contributor/David-Hemmendinger/5383)

[XML](https://www.britannica.com/technology/XML)

Table of Contents

* [Introduction](https://www.britannica.com/technology/XML)

Fast Facts

* [Facts & Related Content](https://www.britannica.com/facts/XML)

Quizzes

* [Computers and Technology Quiz](https://www.britannica.com/quiz/computers-and-technology)

More

* [More Articles On This Topic](https://www.britannica.com/technology/XML/additional-info#More-Articles)
* [Contributors](https://www.britannica.com/technology/XML/additional-info#contributors)
* [Article History](https://www.britannica.com/technology/XML/additional-info#history)

[Home](https://www.britannica.com/)[Technology](https://www.britannica.com/browse/Technology)[Computers](https://www.britannica.com/browse/Computers)

**XML**

computer language

[Print](https://www.britannica.com/print/article/1086474) Cite Share Feedback

Alternate titles: extensible markup language

Written by

David Hemmendinger

Fact-checked by

The Editors of Encyclopaedia Britannica

Last Updated: [Article History](https://www.britannica.com/technology/XML/additional-info#history)

Related Topics:

[markup language](https://www.britannica.com/technology/markup-language)

[See all related content →](https://www.britannica.com/facts/XML)

**XML**, in full **extensible markup language**, a document formatting [language](https://www.britannica.com/topic/language) used for some [World Wide Web](https://www.britannica.com/topic/World-Wide-Web) pages. XML began to be developed in the 1990s because [HTML](https://www.britannica.com/technology/HTML) (hypertext markup language), the basic format for Web pages, does not allow the definition of new text elements; that is, it is not extensible. XML is a simplified form of [SGML](https://www.britannica.com/technology/SGML) (standard generalized markup language) intended for documents that are published on the Web. Like SGML, XML uses DTDs ([document type definitions](https://www.britannica.com/technology/DTD)) to define document types and the meanings of tags used in them. XML adopts [conventions](https://www.britannica.com/dictionary/conventions) that make it easy to parse, such as that document entities are marked by both a beginning and an ending tag, such as <BEGIN>…</BEGIN>. XML provides more kinds of [hypertext](https://www.britannica.com/technology/hypertext) links than HTML, such as bidirectional links and links relative to a document subsection.

Because an author may define new tags, an XML DTD must also contain rules that instruct a [Web browser](https://www.britannica.com/technology/browser) how to interpret them—how an entity is to be displayed or how it is to generate an action such as preparing an [e-mail](https://www.britannica.com/technology/e-mail) message.

[[](https://www.britannica.com/quiz/computers-and-technology)](https://www.britannica.com/quiz/computers-and-technology)

**[Britannica Quiz](https://www.britannica.com/quiz/computers-and-technology)**

[Computers and Technology Quiz](https://www.britannica.com/quiz/computers-and-technology)

[*David Hemmendinger*](https://www.britannica.com/contributor/David-Hemmendinger/5383)