Dollar sign

The **dollar sign** or **peso sign** (\$ or \$) is a <u>symbol</u> used to indicate the units of various <u>currencies</u> around the world, particularly most currencies denominated in <u>pesos</u> and <u>dollars</u>. The symbol can interchangeably have one or two vertical strokes. In common usage, the sign appears to the left of the amount specified, e.g. "\$1", read as "one dollar".

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Origin

There are several hypotheses about the origin of the dollar sign. It is first attested in American, Canadian, Mexican, Spanish American, and other British business correspondence in the 1770s referring to the Spanish American peso, $\frac{[1][2]}{[2]}$ also known as "Spanish dollar" or "piece of eight" in America, which provided the model for the currency that the United States adopted in 1792 and the larger coins of the new Spanish American republics, such as the Mexican peso, Peruvian real, and Bolivian sol coins. This explanation holds that the sign grew out of the Spanish and Spanish American scribal abbreviation "ps" for pesos. A study of late eighteenth- and early nineteenth-century manuscripts shows that the s gradually came to be written over the p, developing into a close equivalent to the "\$" mark. $\frac{[3][4][5][6][7]}{[6][7]}$ A variation of this hypothesis derives the sign from a combination of the Greek character "psi" (ψ) and "S". $\frac{[8]}{[8]}$

$$P^{S} \rightarrow P^{S} \rightarrow$$
US \rightarrow

Development of the dollar sign, according to the best documented hypothesis (top) and one alternative hypothesis (bottom) With the <u>Coinage Act of 1792</u>, the United States Congress created the U.S. dollar, defining it to have "the value of a Spanish milled dollar as the same is now current" but continued to use a variety of foreign coins until the <u>Coinage Act of 1857</u> declared them illegal. These US dollar coins did not have any dollar symbol.

Mexico continued to use the Spanish dollar until after the Mexican War of Independence.

Drawn with two vertical lines

Several alternative hypotheses relate specifically to the dollar sign drawn with two vertical lines. A dollar sign with two vertical lines could have started off as a monogram of "USA" used on money bags issued by the <u>United States Mint</u>. The letters U and S superimposed resemble the historical double-stroke dollar sign \$\\$. The bottom of the U disappears into the bottom curve of the S, leaving two vertical lines. Dr. James Alton James was a professor of history at Northwestern University from 1897 to 1935, and he postulated that the symbol with two strokes was an adapted design of patriot Robert Morris in 1778. [12][13]

The \$1 <u>United States Note</u> issued by the United States in 1869 included a symbol consisting of a partially overlapped U and S, with the right bar of the U intersecting the S, as well as the double-stroke dollar sign in the legal warning against forgery. Another hypothesis is that it is derived from the symbol used on a German <u>Thaler</u>. A similar symbol of superimposing S and I or J was used to denote the German <u>Joachimsthaler</u> which appeared in the 1686 edition of *An Introduction to Merchants' Accounts* by <u>John Collins. [15]</u>

Use in computer software

Because of its use in early American computer applications such as business accounting, the dollar sign is almost universally present in computer <u>character sets</u>, and thus has been appropriated for many purposes unrelated to money in programming languages and <u>command languages</u>.

Encoding

The dollar sign "\$" has Unicode code point U+0024 (inherited from ASCII via Latin-1).

■ U+0024 \$ DOLLAR SIGN (HTML \$ ·\$) (\$ in HTML5[16])

There are no separate encodings for one- and two-line variants. The choice is typeface-dependent, they are allographs.

There are also three other code points that originate from other East Asian standards: the Taiwanese <u>small form variant</u>, the CJK <u>fullwidth form</u>, and the Japanese <u>emoji</u>. The glyphs for these code points are typically larger or smaller than the primary code point, but the difference is mostly aesthetic or typographic, and the meanings of the symbols are the same.

- U+FE69 \$ SMALL DOLLAR SIGN (HTML ﹩)
- U+FF04 \$ FULLWIDTH DOLLAR SIGN (HTML \$)
- U+1F4B2 \$ HEAVY DOLLAR SIGN (HTML 💲)

However, for usage as the special character in various computing applications (see following sections), U+0024 is typically the only code that is recognized.

Programming languages

- \$ was used for defining <u>string variables</u> in older versions of the <u>BASIC</u> language, eg. CHR\$ ("\$" was often pronounced "string" instead of "dollar" in this use).
- \$ is used for defining hexadecimal constants in <u>Pascal</u>-like languages such as <u>Delphi</u>, and in some variants of assembly language.
- \$ is prefixed to names to define <u>variables</u> in the <u>PHP</u> language and the <u>Autolt</u> automation script language, <u>scalar</u> variables in the <u>Perl</u> language (see <u>sigil</u> (computer programming)), and global variables in the <u>Ruby</u> language. In Perl programming this includes scalar elements of <u>arrays</u> \$array[7] and hashes \$hash{foo}{}.
- In most <u>shell scripting</u> languages, \$ is used for interpolating (**s**ubstitution of) <u>environment</u> <u>variables</u>, special variables, arithmetic computations, and special characters, and for performing translation of localised strings. <u>Christopher Stratchey's GPM</u>, the inspiration for the Multics shell, used the non-ASCII symbol § for macro expansion.
- \$ is used in the ALGOL 68 language to delimit transput format regions.
- \$ is used in the TeX typesetting language to delimit mathematical regions.
- In many versions of <u>FORTRAN 66</u>, \$ could be used as an alternative to a quotation mark for delimiting strings.
- In <u>PL/M</u>, \$ can be used to put a visible separation between words in compound identifiers. For example, 'Some\$Name' refers to the same thing as 'SomeName'.
- In Haskell, \$ is used as a function application operator.
- In an <u>AutoHotkey</u> script, a hotkey declared with \$ is not triggered by a 'Send' command elsewhere in the script.
- In several <u>JavaScript</u> frameworks such as <u>Prototype.js</u> and <u>jQuery</u>, \$ is a common <u>utility class</u>, and is often referred to as *the buck*.
- In <u>JavaScript</u> from ES6 onward it is used inside template literals to insert the value of a variable. For example, if var word = "such" then `as \${word}` would equal 'as such'
- In C#, \$ marks a string literal as an interpolated string.
- In <u>ASP.NET</u>, the dollar sign used in a tag in the web page indicates an expression will follow it. The expression that follows is .NET <u>language-agnostic</u>, as it will work with c#, vb.net, or any CLR supported language.
- In Erlang, the dollar sign precedes character literals. The dollar sign as a character can be written \$\$.
- In <u>COBOL</u> the \$ sign is used in the <u>Picture clause</u> to depict a floating currency symbol as the left most character. The default symbol is \$; however, if the CURRENCY = or CURRENCY SIGN clause is specified, many other symbols can be used.
- In some assembly languages, such as MIPS, the \$ sign is used to represent registers.
- In Honeywell 6000 series assembler, the \$ sign, when used as an address, meant the address of the instruction in which it appeared.
- In CMS-2, the \$ sign is used as a statement terminator.
- In R, the \$ sign is used as a subsetting operator.
- In Q (programming language from Kx Systems), the \$ sign is used as a casting/padding/enumeration/conditional operator.
- In Sass, the \$ sign is prefixed to define a variable.

Operating systems

■ In <u>CP/M</u> and subsequently in all versions of <u>DOS</u> (86-DOS, <u>MS-DOS</u>, <u>PC DOS</u>, more) and derivatives, \$ is used as a string terminator (Int 21h with AH=09h).

- \$ is used by the prompt command to insert special sequences into the DOS command prompt string.
- In Microsoft Windows, \$ is appended to the share name to hide a shared folder or resource. For example, "\\server\share" will be visible to other computers on a network, while "\\server\share\$" will be accessible only by explicit reference. Hiding a shared folder or resource will not alter its access permissions but may render it inaccessible to programs or other functions which rely on its visibility. Most administrative shares are hidden in this way.
- In <u>Unix-like</u> systems the \$ is often part of the <u>command prompt</u>, depending on the user's <u>shell</u> and environment settings. For example, the default environment settings for the <u>bash</u> shell specify \$ as part of the command prompt.

The using <u>history expansion</u> !\$ (same as !!1\$ and !-1\$) means the last argument of the previous command in <u>bash</u>: !-2\$ expands to the last argument of the penultimate command, !5\$ expands into the last argument of the fifth command and so on. For example:

```
> touch my_first_file
> echo "This is my file." > !$
```

where !\$ expands into my_first_file.

- In the <u>LDAP</u> directory access protocol, \$ is used as a line separator in various standard entry attributes such as postalAddress.
- In the <u>UNIVAC EXEC 8</u> operating system, "\$" means "system". It is appended to entities such as the names of system files, the "sender" name in messages sent by the operator, and the default names of system-created files (like compiler output) when no specific name is specified (e.g., TPF\$, NAME\$, etc.)
- In <u>RISC OS</u>, \$ is used in system variables to separate the application name from the variables specific to that application. For example Draw\$Dir specifies the directory where the ! Draw application is located. It is also used to refer to the root directory of a file system.

Applications

- <u>Microsoft Excel^[17]</u> and other spreadsheet software use the dollar sign (\$) to denote a fixed row, fixed column reference, or an absolute cell reference.
- The dollar sign introduces a subfield delimiter in computer coding of library catalog records.
- \$ matches the end of a line or string in <u>sed</u>, <u>grep</u>, and <u>POSIX</u> and <u>Perl</u> <u>regular expressions</u>, and, as a result:
- \$ signifies the end of a line or the file in text editors ed, ex, vi, pico, and derivatives.

Currencies that use the dollar or peso sign

In addition to those countries of the world that use <u>dollars</u> or <u>pesos</u>, a number of other countries use the \$ symbol to denote their currencies, including:

- Brazilian real (usually written as R\$)
- Nicaraguan córdoba (usually written as C\$)
- Samoan tālā (a transliteration of the word dollar)
- Tongan pa'anga

An exception is the Philippine peso, whose sign is written as ₱.

The dollar sign is also still sometimes used to represent the <u>Malaysian ringgit</u> (which replaced the local <u>dollar</u>), though its official use to represent the currency has been discontinued since 1993.

Some currencies use the *cifrão* (\$), similar to the dollar sign, but always with two strokes:

- Cape Verde escudo
- Portuguese escudo (defunct)

Because the one bar version and the two bar version are <u>allographs</u>, any given font will contain one style or the other, not both. Furthermore, an electronic document written using one style may be viewed subsequently with the other style, because of <u>font substitution</u>. Consequently, when distinction is critical, it is best to use the three-letter acronym (<u>USD</u>, MXN etc, see ISO 4217).

However, in <u>Argentina</u>, the \$ sign is always used for pesos, and if they want to indicate dollars, they always write U\$S 5 or US\$5 (5 US dollars).

In the United States, Mexico, Australia, Argentina, New Zealand, Hong Kong, Pacific Island nations, and English-speaking Canada, the dollar or peso symbol precedes the number. Five dollars or pesos is written and printed as \$5, whereas five cents is written as $5\underline{c}$. In French-speaking Canada, the dollar symbol usually appears after the number (5\$).

In games and virtual worlds

Some virtual world and gaming platforms have used the \$ symbol to refer to their own virtual currencies, for example:

- R\$ Robux (*Roblox*)
- S\$ Sansar Dollars (Sansar)
- L\$ Linden Dollars (Second Life)

Other uses

The symbol is sometimes used derisively to indicate greed or excess money such as in "Micro\$oft", "George Luca\$", "Lar\$ Ulrich", "Di\$ney", "Chel\$ea" and "GW\$"; or supposed overt Americanisation as in "\$ky". The dollar sign is also used intentionally to stylize names such as A\$AP Rocky, Ke\$ha, and Ty Dolla \$ign or words such as ¥€\$. In 1872, Ambrose Bierce referred to the California Governor as \$tealand Landford. [18]

In <u>Scrabble</u> notation, a dollar sign is placed after a word to indicate that it is valid according to the <u>North</u> American word lists, but not according to the British word lists. [19]

A dollar symbol is used as <u>unit of reactivity</u> for a nuclear reactor, 1\$ being the threshold of slow criticality, meaning a steady reaction rate, while 2\$ is the threshold of <u>prompt criticality</u>, which means a nuclear excursion or explosion. [20]

The dollar sign was used as a letter in the Turkmen alphabet from 1993 to 1999.

The dollar sign plays an important role in the plot of <u>Ayn Rand</u>'s novel <u>Atlas Shrugged</u>, with the book's radical <u>Free Market</u> activists adopting it as their insignia.

See also

- Spanish dollar
- Cifrão
- Euro sign
- Indian rupee sign
- Pound sign
- Ruble sign
- Rupee sign
- Turkish lira sign
- Yen sign
- Yuan sign
- Won sign

Notes

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