

C

?C?, or ?c?, is the third letter of the Latin alphabet, used in the modern English alphabet, the alphabets of other western European languages and others worldwide. Its name in English is cee (pronounced), plural cees.

C++ (, pronounced "C plus plus" and sometimes abbreviated as CPP or CXX) is a high-level, general-purpose programming language created by Danish computer scientist Bjarne Stroustrup. First released in 1985 as an extension of the C programming language, adding object-oriented (OOP) features, it has since expanded significantly over time adding more OOP and other features; as of 1997/C++98 standardization, C++ has added functional features, in addition to facilities for low-level memory manipulation for systems like microcomputers or to make operating systems like Linux or Windows, and even later came features like generic programming (through the use of templates). C++ is usually implemented as a compiled language, and many vendors provide C++ compilers, including the Free Software Foundation, LLVM, Microsoft, Intel, Embarcadero, Oracle, and IBM.

C++ is standardized by the International Organization for Standardization (ISO), with the latest standard version ratified and published by ISO in October 2024 as ISO/IEC 14882:2024 (informally known as C++23). The C++ programming language was initially standardized in 1998 as ISO/IEC 14882:1998, which was then amended by the C++03, C++11, C++14, C++17, and C++20 standards. The current C++23 standard supersedes these with new features and an enlarged standard library. Before the initial standardization in 1998, C++ was developed by Stroustrup at Bell Labs since 1979 as an extension of the C language; he wanted an efficient and flexible language similar to C that also provided high-level features for program organization. Since 2012, C++ has been on a three-year release schedule with C++26 as the next planned standard.

Complex number

In mathematics, a complex number is an element of a number system that extends the real numbers with a specific element denoted i , called the imaginary unit and satisfying the equation

i

2

=

?

1

$$i^2 = -1$$

; every complex number can be expressed in the form

a

+

b

i

$$a + bi$$

, where a and b are real numbers. Because no real number satisfies the above equation, i was called an imaginary number by René Descartes. For the complex number

a

+

b

i

$$a + bi$$

, a is called the real part, and b is called the imaginary part. The set of complex numbers is denoted by either of the symbols

C

$$\mathbb{C}$$

or $\mathbb{C}$. Despite the historical nomenclature, "imaginary" complex numbers have a mathematical existence as firm as that of the real numbers, and they are fundamental tools in the scientific description of the natural world.

Complex numbers allow solutions to all polynomial equations, even those that have no solutions in real numbers. More precisely, the fundamental theorem of algebra asserts that every non-constant polynomial equation with real or complex coefficients has a solution which is a complex number. For example, the equation

(

x

+

1

)

2

=

?

9

$$\{\displaystyle (x+1)^{2}=-9\}$$

has no real solution, because the square of a real number cannot be negative, but has the two nonreal complex solutions

?

1

+

3

i

$$\{\displaystyle -1+3i\}$$

and

?

1

?

3

i

$$\{\displaystyle -1-3i\}$$

.

Addition, subtraction and multiplication of complex numbers can be naturally defined by using the rule

i

2

=

?

1

$${\displaystyle i^{\{2\}}=-1}$$

along with the associative, commutative, and distributive laws. Every nonzero complex number has a multiplicative inverse. This makes the complex numbers a field with the real numbers as a subfield. Because of these properties, ?

a

+

b

i

=

a

+

i

b

$${\displaystyle a+bi=a+ib}$$

?, and which form is written depends upon convention and style considerations.

The complex numbers also form a real vector space of dimension two, with

{

1

,

i

}

$${\displaystyle \{1,i\}}$$

as a standard basis. This standard basis makes the complex numbers a Cartesian plane, called the complex plane. This allows a geometric interpretation of the complex numbers and their operations, and conversely some geometric objects and operations can be expressed in terms of complex numbers. For example, the real numbers form the real line, which is pictured as the horizontal axis of the complex plane, while real multiples of

i

$${\displaystyle i}$$

are the vertical axis. A complex number can also be defined by its geometric polar coordinates: the radius is called the absolute value of the complex number, while the angle from the positive real axis is called the

argument of the complex number. The complex numbers of absolute value one form the unit circle. Adding a fixed complex number to all complex numbers defines a translation in the complex plane, and multiplying by a fixed complex number is a similarity centered at the origin (dilating by the absolute value, and rotating by the argument). The operation of complex conjugation is the reflection symmetry with respect to the real axis.

The complex numbers form a rich structure that is simultaneously an algebraically closed field, a commutative algebra over the reals, and a Euclidean vector space of dimension two.

Cardinality of the continuum

$\aleph_0 = \frac{c}{n}$ where n is any finite cardinal $\neq 0$ and $c = 2^c \times 0 = 2^c$

In set theory, the cardinality of the continuum is the cardinality or "size" of the set of real numbers

$\mathbb{R}$

$\{\mathbb{R}\}$

, sometimes called the continuum. It is an infinite cardinal number and is denoted by

c

$\{\mathbf{\frac{c}{c}}\}$

(lowercase Fraktur "c") or

|

$\mathbb{R}$

|

.

$\{\mathbf{\{|\}}\}\{\mathbf{\{\mathbb{R}\}}\}\{\mathbf{\{|\}}\}.$

The real numbers

$\mathbb{R}$

$\{\mathbb{R}\}$

are more numerous than the natural numbers

$\mathbb{N}$

$\{\mathbb{N}\}$

. Moreover,

$\mathbb{R}$

$\{\mathbb{R}\}$

has the same number of elements as the power set of

$\mathbb{N}$

$\{\displaystyle \mathbb{N}\}$

. Symbolically, if the cardinality of

$\mathbb{N}$

$\{\displaystyle \mathbb{N}\}$

is denoted as

?

0

$\{\displaystyle \aleph _{0}\}$

, the cardinality of the continuum is

This was proven by Georg Cantor in his uncountability proof of 1874, part of his groundbreaking study of different infinities. The inequality was later stated more simply in his diagonal argument in 1891. Cantor defined cardinality in terms of bijective functions: two sets have the same cardinality if, and only if, there exists a bijective function between them.

Between any two real numbers $a < b$, no matter how close they are to each other, there are always infinitely many other real numbers, and Cantor showed that they are as many as those contained in the whole set of real numbers. In other words, the open interval (a,b) is equinumerous with

$\mathbb{R}$

$\{\displaystyle \mathbb{R}\}$

, as well as with several other infinite sets, such as any n -dimensional Euclidean space

$\mathbb{R}$

n

$\{\displaystyle \mathbb{R} ^{n}\}$

(see space filling curve). That is,

The smallest infinite cardinal number is

?

0

$\{\displaystyle \aleph _{0}\}$

(aleph-null). The second smallest is

?

1

Fraktur is often characterized as "the German typeface", as it remained popular in Germany and much of Eastern Europe far longer than elsewhere. Beginning in the 19th century, the use of Fraktur versus Antiqua (seen as modern) was the subject of controversy in Germany. The Antiqua–Fraktur dispute continued until 1941, when the Nazi government banned Fraktur typefaces. After Nazi Germany fell in 1945, Fraktur was unbanned, but it failed to regain widespread popularity.

Enclosed C or circled Latin C (? or ?) is a typographical symbol. As one of many enclosed alphanumerics, the symbol is a "C" within a circle. The symbols

Numerals in Unicode

A numeral (often called number in Unicode) is a character that denotes a number. The decimal number digits 0–9 are used widely in various writing systems throughout the world, however the graphemes representing the decimal digits differ widely. Therefore Unicode includes 22 different sets of graphemes for the decimal digits, and also various decimal points, thousands separators, negative signs, etc. Unicode also includes several non-decimal numerals such as Aegean numerals, Roman numerals, counting rod numerals, Mayan numerals, Cuneiform numerals and ancient Greek numerals. There is also a large number of typographical variations of the Western Arabic numerals provided for specialized mathematical use and for compatibility with earlier character sets, such as ² or [?], and composite characters such as ½.

? ? ? 01 B ? ? ? ? ? ? ? ? ? ? ? ? ? ? 02 C ? ? ? ? ? ? ? ? ? ? ? ? ? ? 03 D ? ? ? ? ? ? ? ? ? ? ? ? ? ? 04 E ? ? ?

Unicode now includes many such symbols (in the range U+1D400–U+1D7FF). The rationale behind this is that it enables design and usage of special mathematical characters (fonts) that include all necessary properties to differentiate from other alphanumerics, e.g. in mathematics an italic letter "?" can have a different meaning from a roman letter "A". Unicode originally included a limited set of such letter forms in its Letterlike Symbols block before completing the set of Latin and Greek letter forms in this block beginning in version 3.1.

Unicode expressly recommends that these characters not be used in general text as a substitute for presentational markup; the letters are specifically designed to be semantically different from each other. Unicode does not include a set of normal serif letters in the set. Still they have found some usage on social media, for example by people who want a stylized user name, and in email spam, in an attempt to bypass filters.

All these letter shapes may be manipulated with MathML's attribute `mathvariant`.

The introduction date of some of the more commonly used symbols can be found in the Table of mathematical symbols by introduction date.

C&C

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C&C Group (formerly Cantrell and Cochrane), a consumer goods group based in Ireland

C&C Yachts, sailboat builder

C+C Music Factory, an American dance-pop and hip hop group

Cambridge & Coleridge Athletic Club, based in Cambridge, United Kingdom

Castles & Crusades, a role-playing game

Chris & Cosey, an industrial music project of Throbbing Gristle members

City and Colour, acoustic project from musician Dallas Green

Coheed and Cambria, a rock band from Nyack, New York, formed in 1995

Chocolate and Cheese, album by Ween

Codes and ciphers, see Cryptography

Cookies and cream, an ice cream variety flavored with chocolate sandwich cookies

Command and control, the exercise of authority by a commanding officer over military forces in the accomplishment of a mission

Command and control (management), an approach to decision making in organizations

Command and control (malware), a control mechanism for botnets

Command & Conquer, a real-time strategy video game series

Contraction and Convergence, an approach to limiting carbon dioxide emissions globally

Cycle & Carriage, a Malaysian assembler and distributor of motor vehicles

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<https://www.onebazaar.com.cdn.cloudflare.net/@16084108/dadvertisey/bdisappearz/lparticipatef/deitel+how+to+pro>