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Reference   <istream>   istream

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class

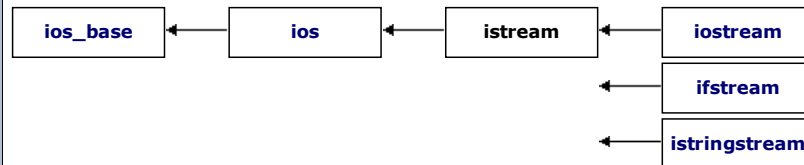std::**istream**   <istream> <iostream>

```
typedef basic_istream<char> istream;
```

Input stream

Input stream objects can read and interpret input from sequences of characters. Specific members are provided to perform these input operations (see functions below).

The standard object cin is an object of this type.

This is an instantiation of basic_istream with the following template parameters:

template parameter	definition	comments
charT	char	Aliased as member char_type
traits	char_traits<char>	Aliased as member traits_type

Objects of these classes keep a set of internal fields inherited from ios_base and ios:

	field	member functions	description
Formatting	format flags	flags setf unsetf	A set of internal flags that affect how certain input/output operations are interpreted or generated. See member type fmtflags.
	field width	width	Width of the next formatted element to insert.
	display precision	precision	Decimal precision for the next floating-point value inserted.
	locale	getloc imbue	The locale object used by the function for formatted input/output operations affected by localization properties.
	fill character	fill	Character to pad a formatted field up to the *field width* (width).
State	error state	rdstate setstate clear	The current error state of the stream. Individual values may be obtained by calling good, eof, fail and bad. See member type iostate.
	exception mask	exceptions	The state flags for which a failure exception is thrown. See member type iostate.
Other	callback stack	register_callback	Stack of pointers to functions that are called when certain events occur.
	extensible arrays	iword pword xalloc	Internal arrays to store objects of type long and void*.
	tied stream	tie	Pointer to output stream that is flushed before each i/o operation on this stream.
	stream buffer	rdbuf	Pointer to the associated streambuf object, which is charge of all input/output operations.

To these, istream adds the *character count* (accessible using member gcount).

🔲 Member types

The class contains the following member class:

sentry	Prepare stream for input (public member class)

Along with the following member types:

member type	definition
char_type	char
traits_type	char_traits<char>
int_type	int
pos_type	streampos
off_type	streamoff

And these member types inherited from ios_base through ios:

event	Type to indicate event type (public member type)
event_callback	Event callback function type (public member type)
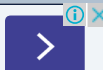
failure	Base class for stream exceptions (public member class)
fmtflags	Type for stream format flags (public member type)
Init	Initialize standard stream objects (public member class)
iostate	Type for stream state flags (public member type)
openmode	Type for stream opening mode flags (public member type)
seekdir	Type for stream seeking direction flag (public member type)

𝑓𝑥 Public member functions

(constructor)	Construct object (public member function)
(destructor)	Destroy object (public member function)

Formatted input:

operator>>	Extract formatted input (public member function)

Unformatted input:

gcount	Get character count (public member function)
get	Get characters (public member function)
getline	Get line (public member function)
ignore	Extract and discard characters (public member function)
peek	Peek next character (public member function)
read	Read block of data (public member function)
readsome	Read data available in buffer (public member function)
putback	Put character back (public member function)
unget	Unget character (public member function)

Positioning:

tellg	Get position in input sequence (public member function)
seekg	Set position in input sequence (public member function)

Synchronization:

sync	Synchronize input buffer (public member function)

𝑓𝑥 Protected member functions

|	
operator= `C++11`	Move assignment (protected member function)
swap `C++11`	Swap internals (protected member function)

𝑓𝑥 Public member functions inherited from `ios`

good	Check whether state of stream is good (public member function)
eof	Check whether eofbit is set (public member function)
fail	Check whether either failbit or badbit is set (public member function)
bad	Check whether badbit is set (public member function)
operator!	Evaluate stream (not) (public member function)
operator bool `C++11`	Evaluate stream (public member function)
rdstate	Get error state flags (public member function)
setstate	Set error state flag (public member function)
clear	Set error state flags (public member function)
copyfmt	Copy formatting information (public member function)
fill	Get/set fill character (public member function)
exceptions	Get/set exceptions mask (public member function)
imbue	Imbue locale (public member function)
tie	Get/set tied stream (public member function)
rdbuf	Get/set stream buffer (public member function)
narrow	Narrow character (public member function)
widen	Widen character (public member function)

𝑓𝑥 Public member functions inherited from `ios_base`

flags	Get/set format flags (public member function)
setf	Set specific format flags (public member function)
unsetf	Clear specific format flags (public member function)
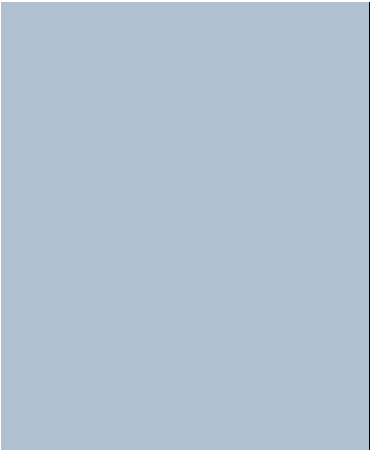
precision	Get/Set floating-point decimal precision (public member function)
width	Get/set field width (public member function)
imbue	Imbue locale (public member function)
getloc	Get current locale (public member function)
xalloc	Get new index for extensible array [static] (public static member function)
iword	Get integer element of extensible array (public member function)
pword	Get pointer element of extensible array (public member function)
register_callback	Register event callback function (public member function)
sync_with_stdio	Toggle synchronization with cstdio streams [static] (public static member function)