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public member function

<ios> <iostream>

## std::ios\_base::pword

void\*& pword (int idx);

**Get pointer element of extensible array**

Returns a reference to the object of type void\* which corresponds to index *idx* in the *internal extensible array*.

If *idx* is an index to a new element and the internal extensible array is not long enough (or is not yet allocated), the function extends it (or allocates it) with as many elements initialized to *null pointers* as necessary.

The reference returned is guaranteed to be valid at least until another operation is performed on the stream object, including another call to pword. Once another operation is performed, the reference may become invalid, although a subsequent call to this same function with the same *idx* argument returns a reference to the same value within the *internal extensible array*.

The *internal extensible array* is a general-purpose array of objects of type long (if accessed with member *iword*) or void\* (if accessed with member *pword*). Libraries may implement this array in diverse ways: *iword* and *pword* may or may not share a unique array, and they may not even be arrays, but some other data structure.

### Parameters

**idx**

An index value for an element of the *internal extensible array*. Some implementations expect *idx* to be a value previously returned by member *xalloc*.

### Return Value

A reference to the element in the internal extensible array whose index is *idx*. This value is returned as a reference to an object of type void\*.

On failure, a valid void\*& initialized to 0 is returned, and (if the stream object inherits from *basic\_ios*) the badbit state flag is set.

### Example

```
1 // pword example
2 #include <iostream>      // std::ios, std::cout, std::cerr, std::clog
3
4 const int name_index = std::ios::xalloc();
5
6 // stores pointer in extensible array:
7 void SetStreamName (std::ios& stream, const char* name) {
8     stream.pword(name_index) = const_cast<char*>(name);
9 }
10
11 // custom manipulator that uses stored pointer:
12 std::ostream& StreamName (std::ostream& os) {
13     const char* name = static_cast<const char*>(os.pword(name_index));
14     if (name) os << name;
15     else os << "(unknown)";
16     return os;
17 }
18
19 int main()
20 {
21     SetStreamName(std::cout, "standard output stream");
22     SetStreamName(std::cerr, "standard error stream");
23     std::cout << StreamName << '\n';
24     std::cerr << StreamName << '\n';
25     std::clog << StreamName << '\n';
26     return 0;
27 }
```

Possible output:

```
standard output stream
standard error stream
(unknown)
```

### Data races

May modify the stream object. The returned value may also be used to modify it. Concurrent access to the same stream object may cause data races.

ios\_base::width

ios\_base::xalloc

member types:

ios\_base::event

ios\_base::event\_callback

ios\_base::failure

ios\_base::fmtflags

ios\_base::Init

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Exception safety

**Basic guarantee:** if an exception is thrown, the stream is in a valid state.

See also

ios\_base::xalloc

Get new index for extensible array [static] (public static member function )

ios\_base::iword

Get integer element of extensible array (public member function )