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**College of Engineering and Architecture**

PRASSIGNMENT

**C – PROGRAMMING**

FEBRUARY 20, 2019

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| **Tgpg=todoo**  **INSTRUCTOR** |

WHAT IS IOSTREAM?

It’s a set of classes, templates, and library functions that are part of the standard library in C++ that are used to perform input, output, and various formatting operations.

The IO is from Input/Output (IO), and Stream is because it’s a (potentially endless) flow [or “stream”] of characters.

Operations allow you to build and parse sequences of characters, use different sources and destinations, including strings themselves, all through a handy set of terse operators and flags.

WHAT IS THE USE OF IOSTREAM?

In C++, It is used as a prototype for pre-defined functions that do interact with input and output streams. It is also known as Header file with extension .h.

A program will not compile unless you add #include <iostream>

The second line isn't necessary

using namespace std;

What that does is tell the compiler that symbol names defined in the std namespace are to be brought into your program's scope, so you can omit the namespace qualifier, and write for example

#include <iostream>

using namespace std;

int main( int argc, char \* argv[] )

{

cout << "Hello World!" << endl;

return 0;

}

Notice you no longer need to refer to the output stream with the fully qualified name std::cout and can use the shorter name cout.

* This file is part of the GNU ISO C++ Library. This library is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 3, or (at your option) any later version.
* This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
* This is a Standard C++ Library header.
* The &lt;iostream&gt; header declares the eight <em>standard stream objects</em>. They are required by default to cooperate with the global C library's @c FILE streams, and to be available during program startup and termination.
* For construction of filebuffers for cout, cin, cerr, clog et. al. static ios\_base::Init \_\_ioinit;

USAGE OF “using namespace std;”

* using: You are going to use it.
* namespace: To use what? A namespace.
* std: The std namespace (where features of the C++ Standard Library, such as string or vector, are declared).

After you write this instruction, if the compiler sees string it will know that you may be referring to std::string, and if it sees vector, it will know that you may be referring to std::vector. (Provided that you have included in your compilation unit the header files where they are defined, of course.)

If you *don't* write it, when the compiler sees string or vector it will not know what you are refering to. You will need to explicitly tell it std::string or std::vector, and if you don't, you will get a compile error.

## DIFFERENCE BETWEEN INT MAIN() AND VOID MAIN() AND MAIN()

Like any other function, main is also a function but with a special characteristic that the program execution always starts from the ‘main’. ‘int’ and ‘void’ are its return type. So, let’s discuss all of the three one by one.

* ***void main*** – The ANSI standard says "no" to the ‘void main’ and thus using it can be considered wrong. One should stop using the ‘void main’ if doing so.
* ***int main*** – ‘int main’ means that our function needs to return some integer at the end of the execution and we do so by returning 0 at the end of the program. 0 is the standard for the “successful execution of the program”.
* ***main*** – In C89, the unspecified return type defaults to **int**. So, ***main***is equivalent to **int main**in C89. But in C99, this is not allowed and thus one must use **int main**.

So, the preferred way is ***int main***.

LIBRARY OF “#include<iostream>” through DEVC++

// Standard iostream objects -\*- C++ -\*-

// Copyright (C) 1997-2013 Free Software Foundation, Inc.

//

// This file is part of the GNU ISO C++ Library. This library is free

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// a copy of the GCC Runtime Library Exception along with this program;

// see the files COPYING3 and COPYING.RUNTIME respectively. If not, see

// <http://www.gnu.org/licenses/>.

/\*\* @file include/iostream

\* This is a Standard C++ Library header.

\*/

//

// ISO C++ 14882: 27.3 Standard iostream objects

//

#ifndef \_GLIBCXX\_IOSTREAM

#define \_GLIBCXX\_IOSTREAM 1

#pragma GCC system\_header

#include <bits/c++config.h>

#include <ostream>

#include <istream>

namespace std \_GLIBCXX\_VISIBILITY(default)

{

\_GLIBCXX\_BEGIN\_NAMESPACE\_VERSION

/\*\*

\* @name Standard Stream Objects

\*

\* The &lt;iostream&gt; header declares the eight <em>standard stream

\* objects</em>. For other declarations, see

\* http://gcc.gnu.org/onlinedocs/libstdc++/manual/bk01pt11ch24.html

\* and the @link iosfwd I/O forward declarations @endlink

\*

\* They are required by default to cooperate with the global C

\* library's @c FILE streams, and to be available during program

\* startup and termination. For more information, see the HOWTO

\* linked to above.

\*/

//@{

extern istream cin; /// Linked to standard input

extern ostream cout; /// Linked to standard output

extern ostream cerr; /// Linked to standard error (unbuffered)

extern ostream clog; /// Linked to standard error (buffered)

#ifdef \_GLIBCXX\_USE\_WCHAR\_T

extern wistream wcin; /// Linked to standard input

extern wostream wcout; /// Linked to standard output

extern wostream wcerr; /// Linked to standard error (unbuffered)

extern wostream wclog; /// Linked to standard error (buffered)

#endif

//@}

// For construction of filebuffers for cout, cin, cerr, clog et. al.

static ios\_base::Init \_\_ioinit;

\_GLIBCXX\_END\_NAMESPACE\_VERSION

} // namespace

#endif /\* \_GLIBCXX\_IOSTREAM \*/