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Practical # 01

Introduction to DEV C++ IDE

Objective: ***To understand the DEV C++ IDE(Integrated Development Environment) and implement a simple C Program.***

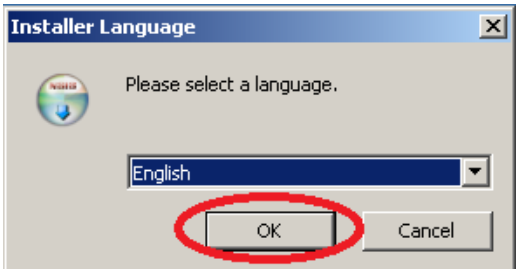
Theory:

The Integrated Development Environment (IDE)

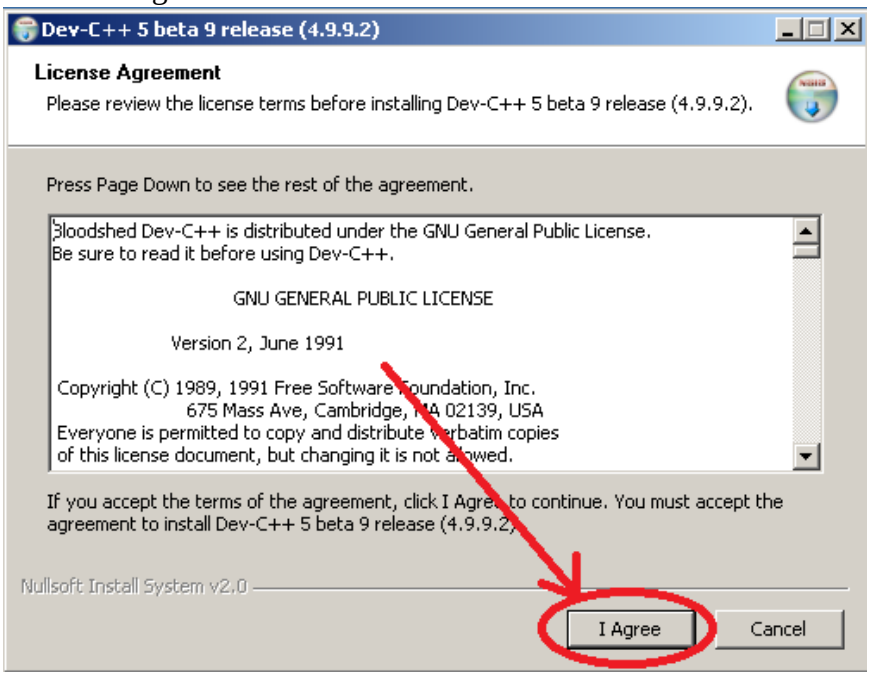
Dev-C++, developed by Bloodshed Software, is a fully featured graphical IDE (Integrated Development Environment), which is able to create Windows or console-based C/C++ programs using the MinGW compiler system. MinGW (Minimalist GNU* for Windows) uses GCC (the GNU g++ compiler collection), which is essentially the same compiler system that is in Cygwin (the unix environment program for Windows) and most versions of Linux.

Installation Steps:

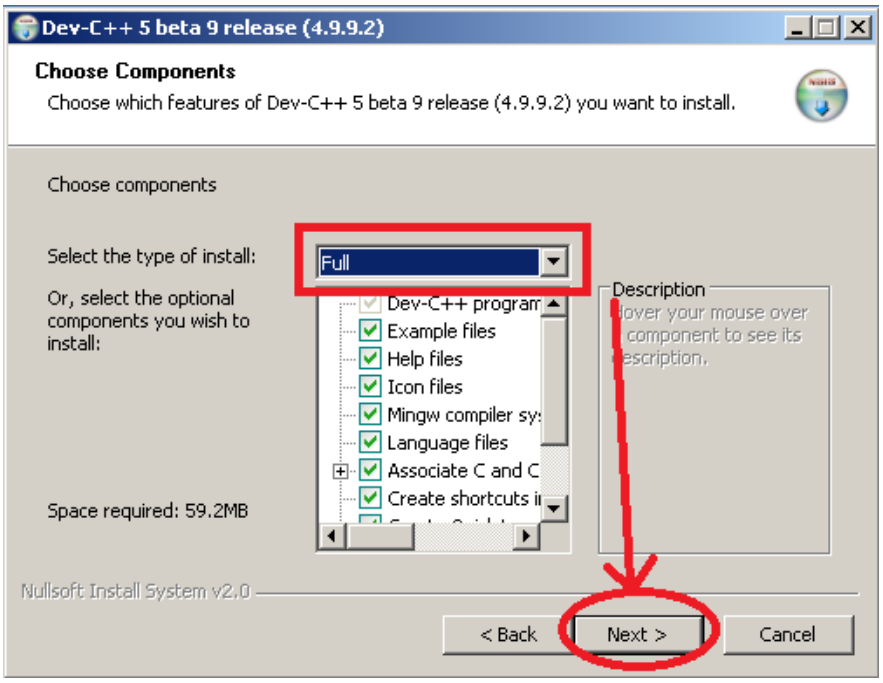
1. Download the installer from the internet. Follow the instructions and install the program. The following screenshots will help you install and run the product:



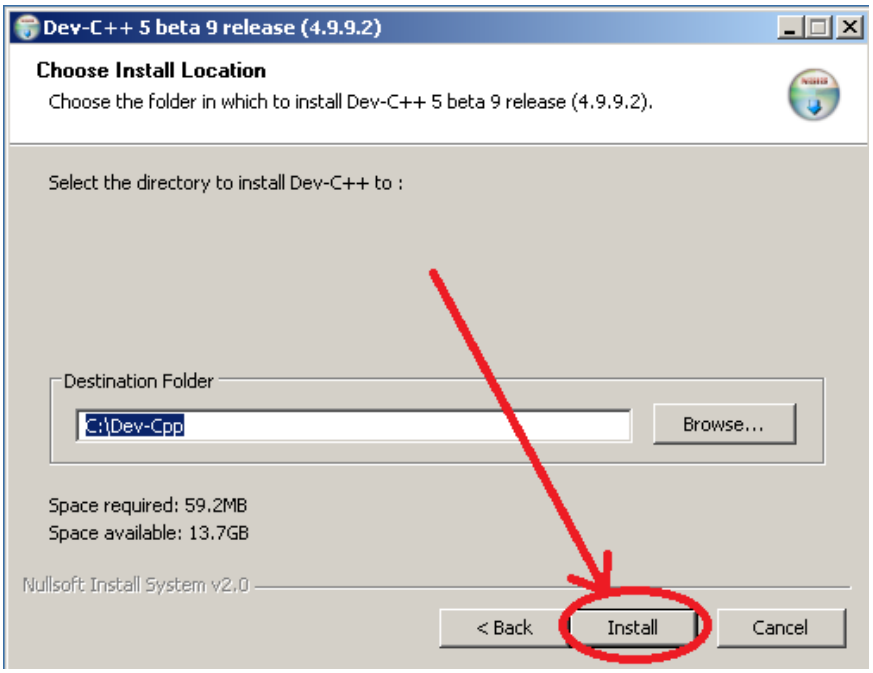
2. License Agreement
   Click on the "I Agree" button to continue



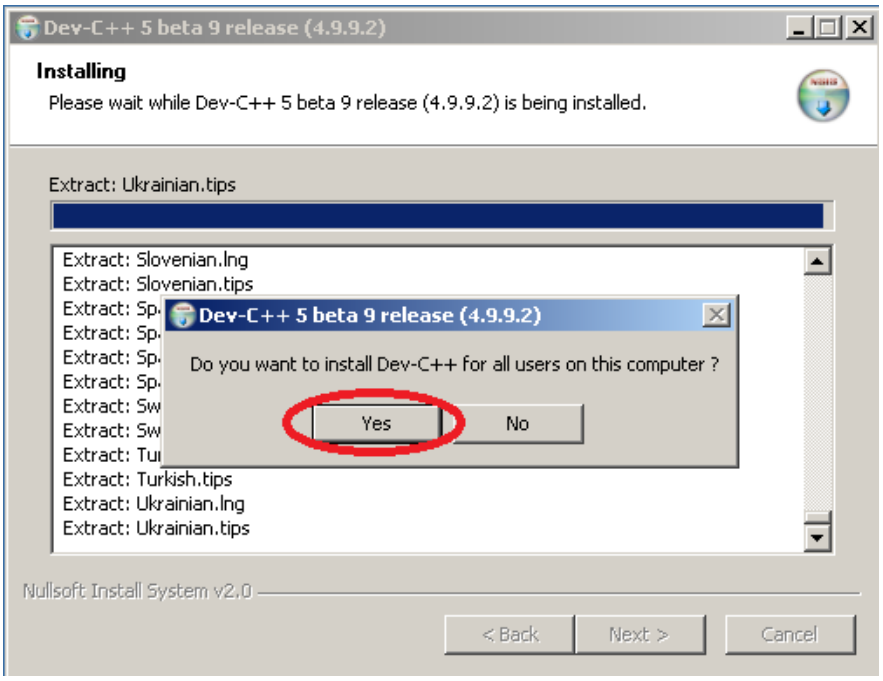
3. Choose Components
   Make sure that the type of install is Full and click the Next button to continue



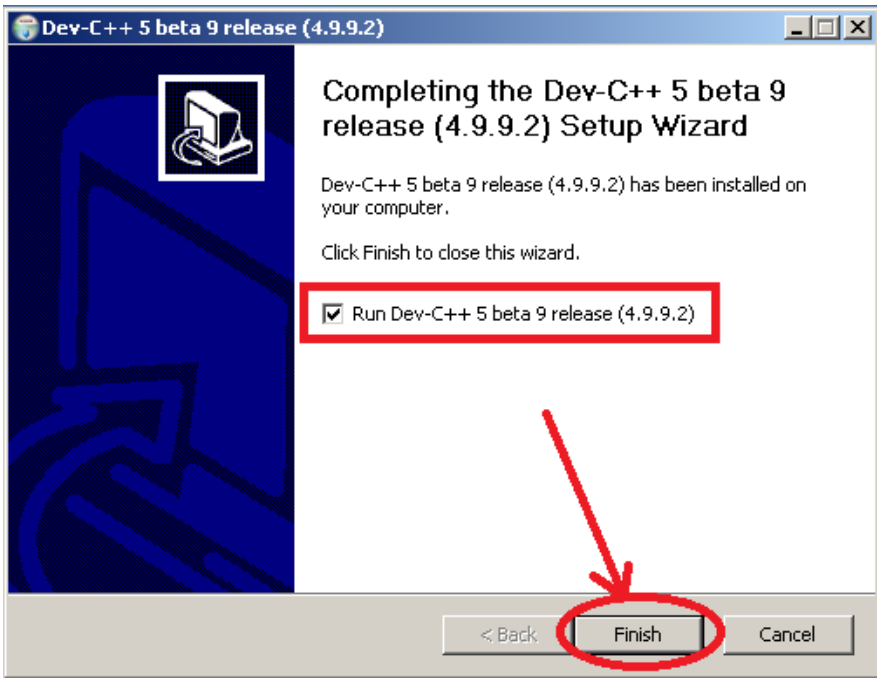
4. Choose Install Location
   Click the Install button to continue



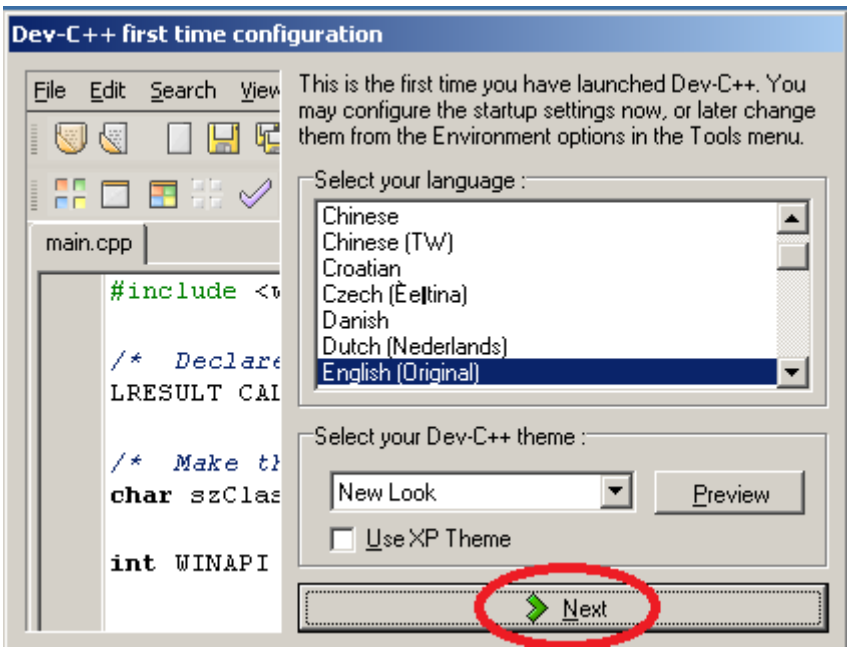
5. Installing
   Click the Yes button



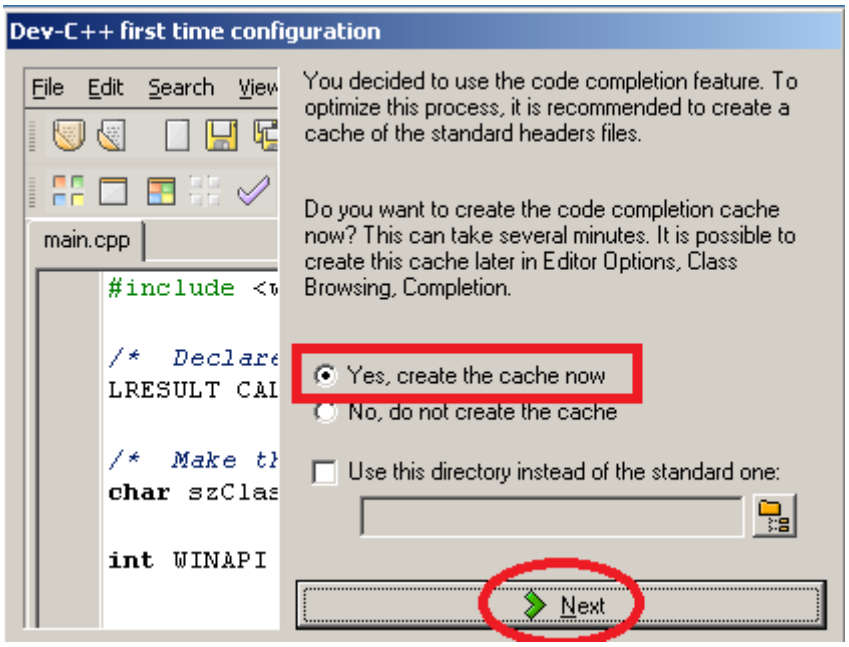
6. Finished
   Click the Finish button to finalize the installation and run the program.



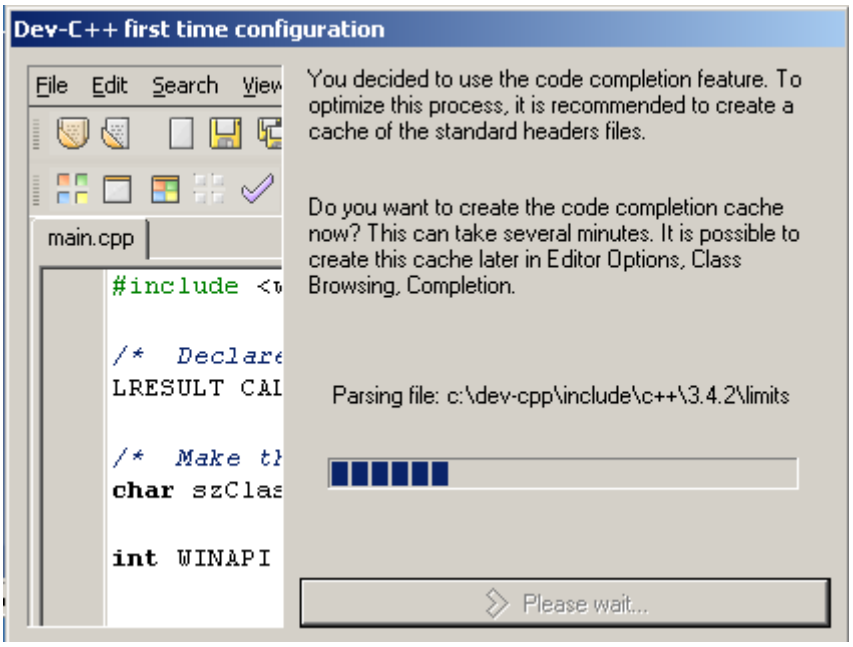
7. First Time Configuration
   Click the Next button to continue



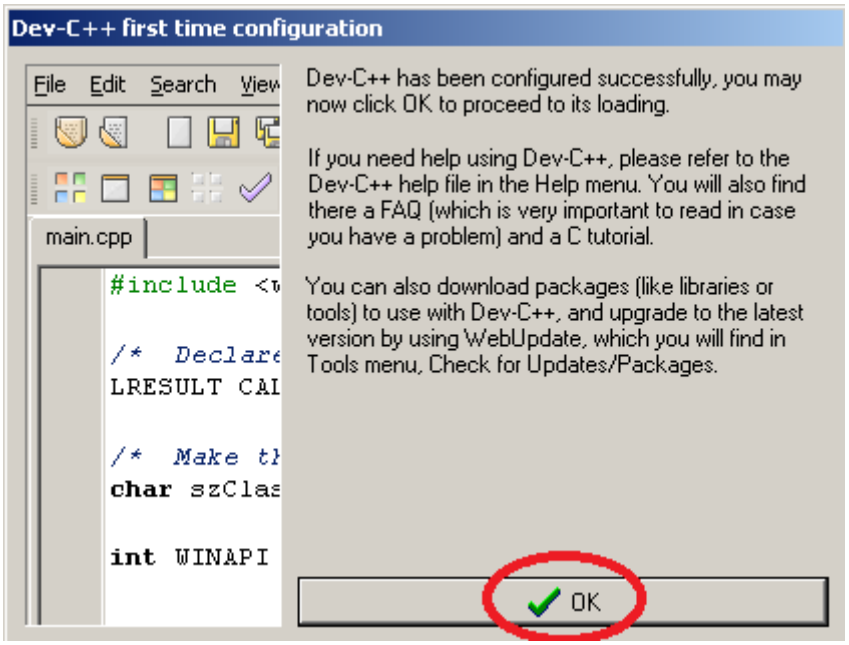
8. First Time Configuration
   Click the Next button to continue



9. First Time Configuration
   Wait for the Progress Bar to Complete

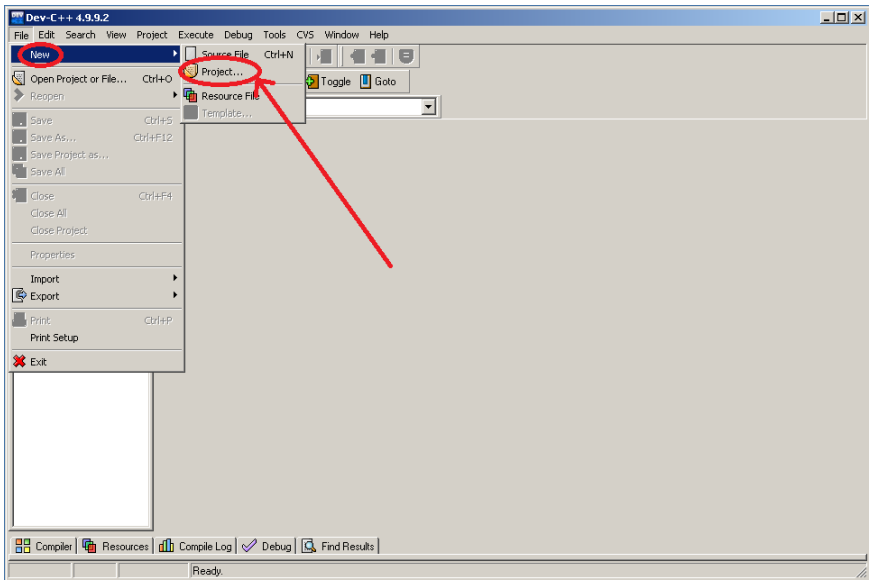


10. First Time Configuration
    Click the OK button to Finalize

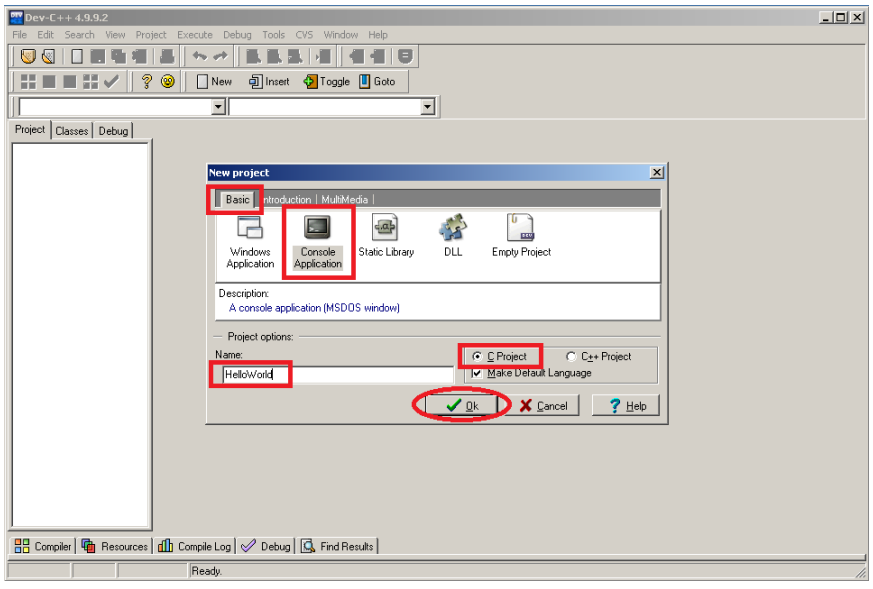


New Project Menu

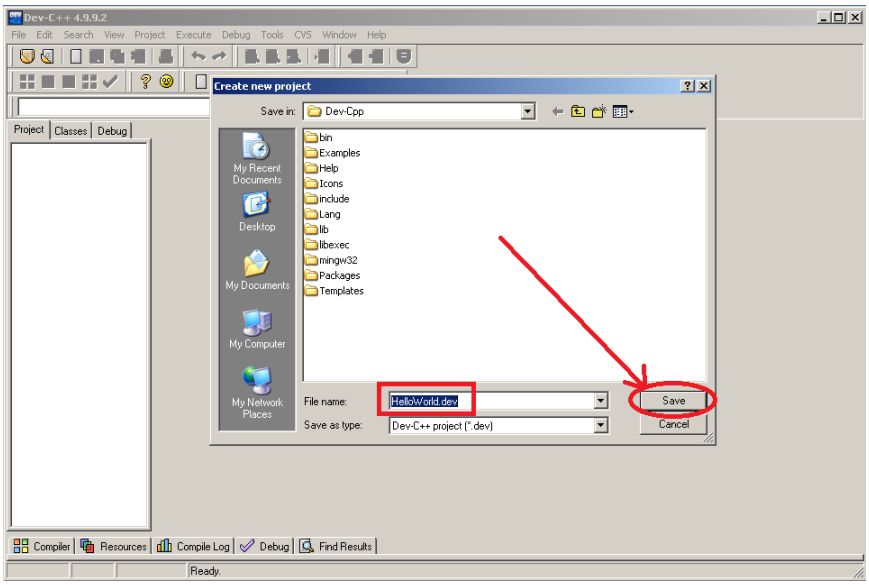
Click the File menu, then select the New menu item and click the Project menu item.



New Project
On the top, make sure that Basic tab is selected and under the Basic tab, select “Console Application”
Give a name to your project using the Name text box, For instance, “Hello World”.
Important: Choose “C Project” under “Project Options”, on the left
Click the OK button to create your project

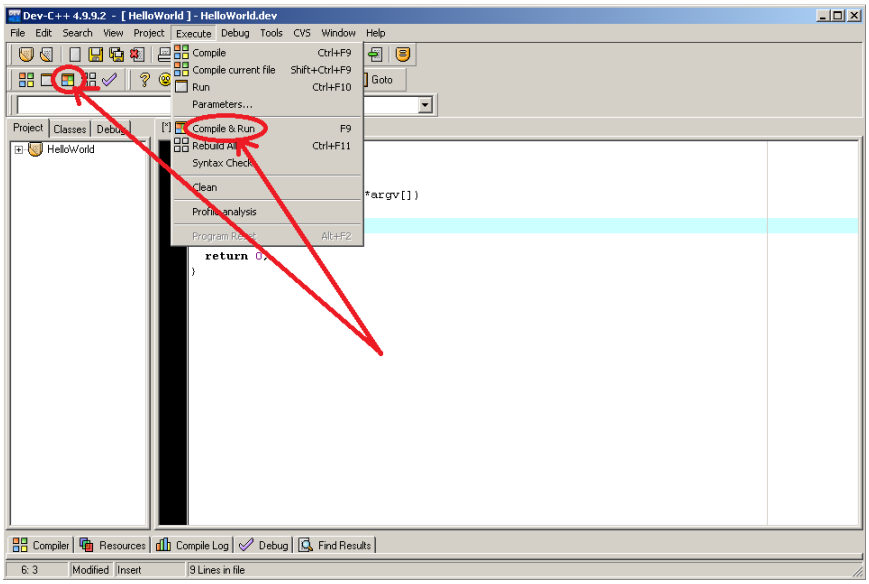


Create New Project
Give a name to your project file and click the Save button to continue



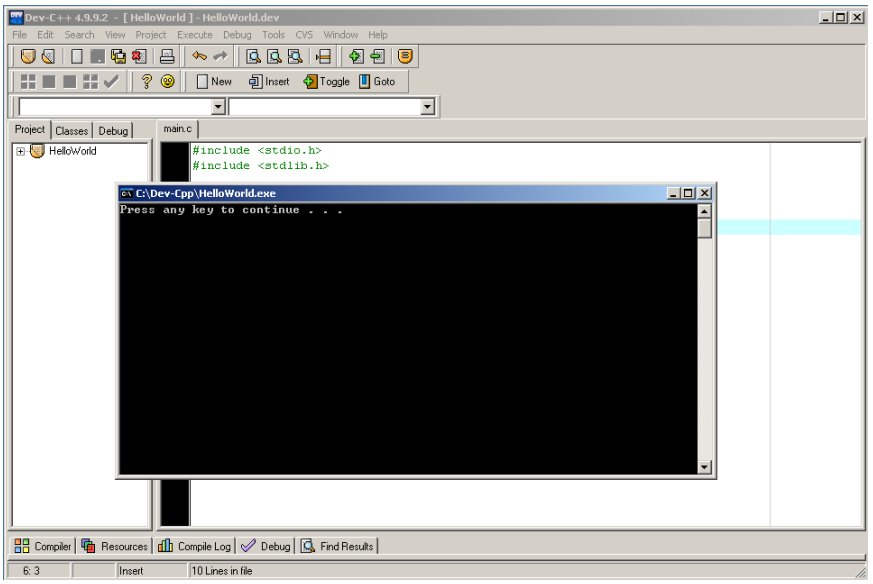
Compile & Run:

Click “Compile & Run” menu item or the icon displayed in the below screenshot or just Press F9 to compile and run your program.



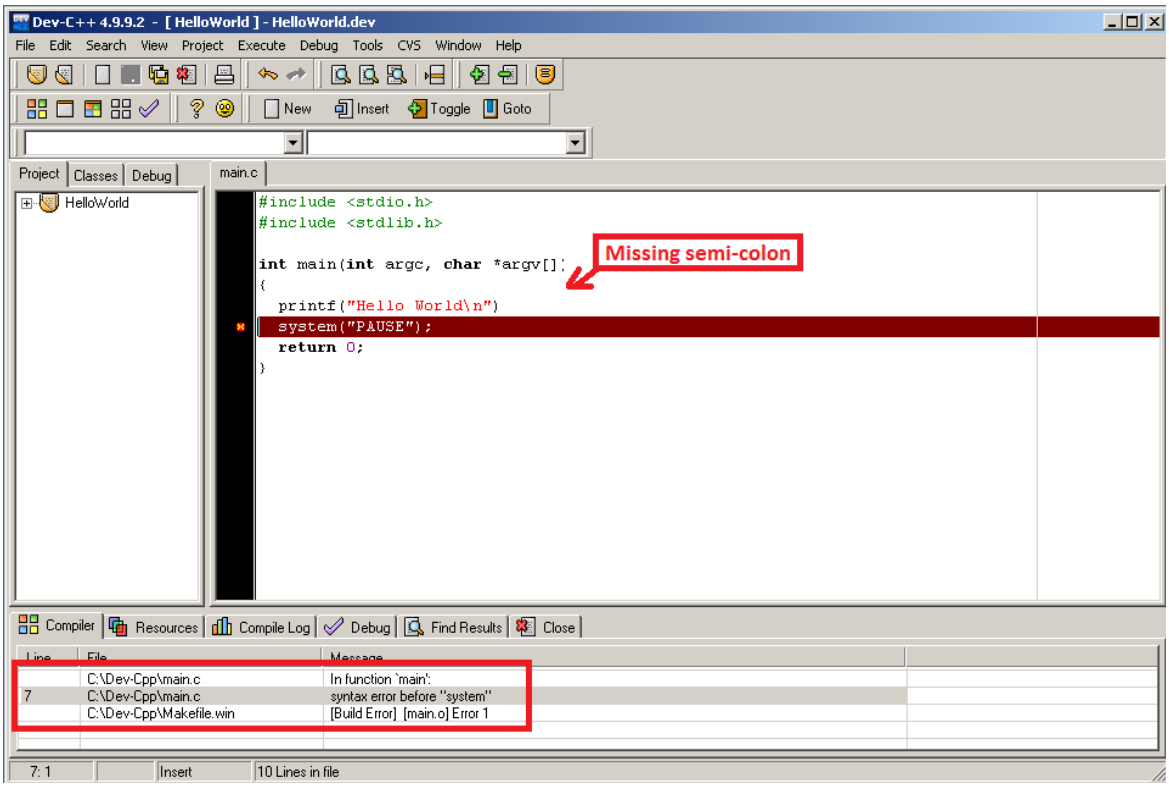
Running:

Assuming you did not make any syntax errors on your code, you should see a similar output window running your program.



Compile Failed

If you try to compile a code which has syntax errors, Compiler window lists the errors with their line numbers. You can double click the error and see the error highlighted in the code.



Review Questions/ Exercise:

1. Discuss the steps necessary to produce executable file?

First of all we have to go to file menu and we have to click on New. After that screen will be displayed and we have to make sure the type is basic console application and should name our file and save its location. After that our project file or executable file will be ready to use and we can use it for further and we can run and debug to file.

2. Discuss the purpose of Compiler & the file needed by compiler?

Basically a Compiler`s functions is to translate higher level language source code written in java, c, or c++ languages into machine code. Main purpose of compiler is to allow developer to write code in human readable or human friendly language. Compiler need source code file (c,c++, java,python), header file(.h,.hpp), library file(.lib) etc. These files collectively provide the necessary inputs for the compiler to generate executable code.

3. Discuss the linker & the file needed by the linker?

A linker is a computer program that takes compiled files or the file generated by compiler and combines them into a single executable file. linker also resolves external references between object file or compiled file and libraries which allows programs to execute or run on computer. Basically linker helps us to use functions and variables defined elsewhere. linker needed following files:

1. Object File: This file consist machine code or the code which is compiled by the Compiler from the source code. We use different languages to write source code like .c, cpp etc.

2. Library File: These file contain compiled code that gives us usually used functions such as standard library function(printf,scanf etc).

3. Header File: Header files used at the top of any code is directly used by the linker to provide declaration of functions and variables. (.h, .hpp).