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.
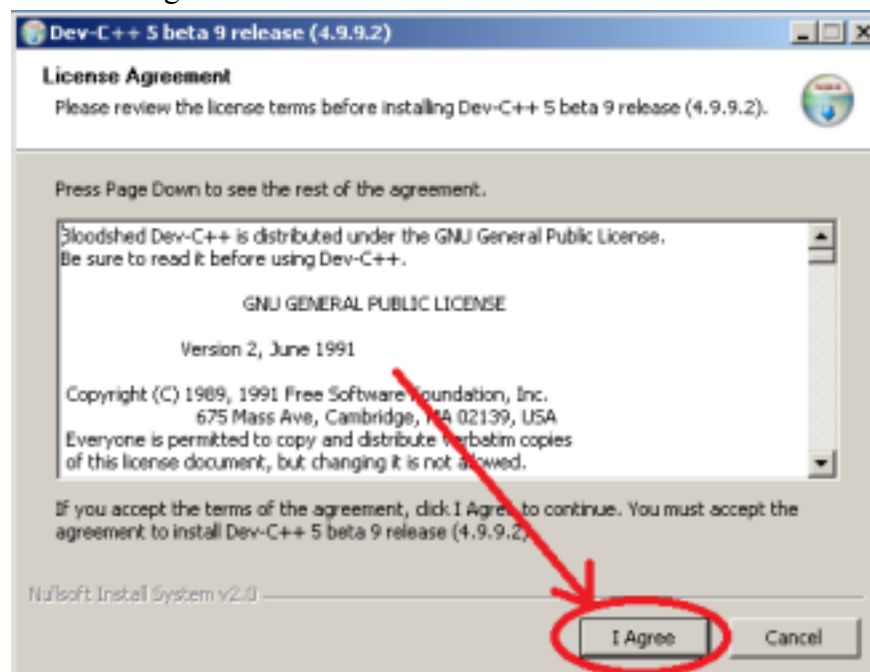
Installation Steps:

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:
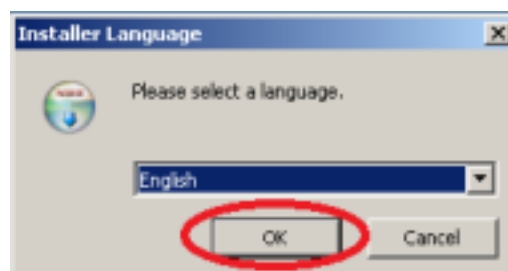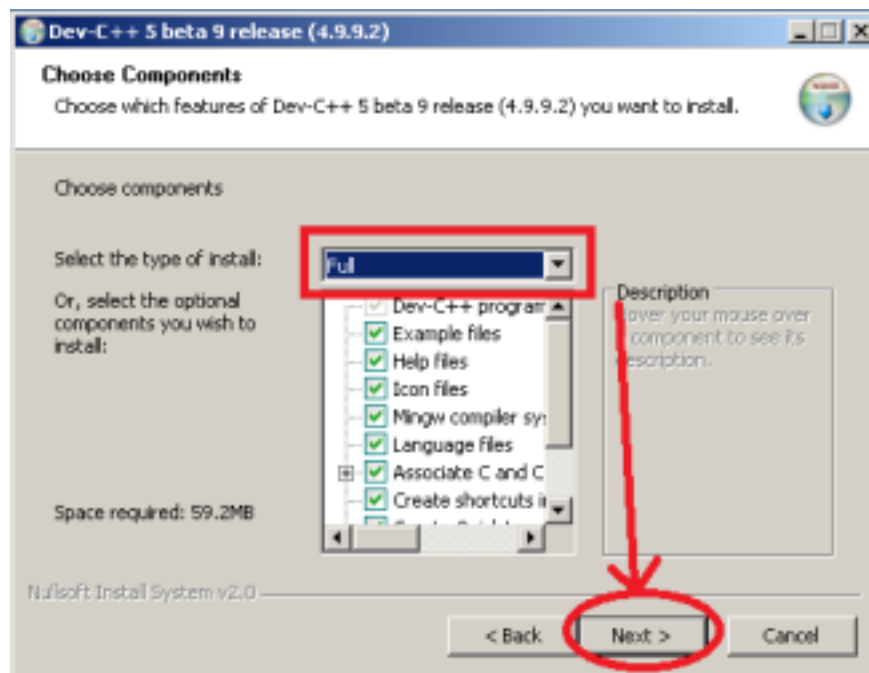

2. License Agreement
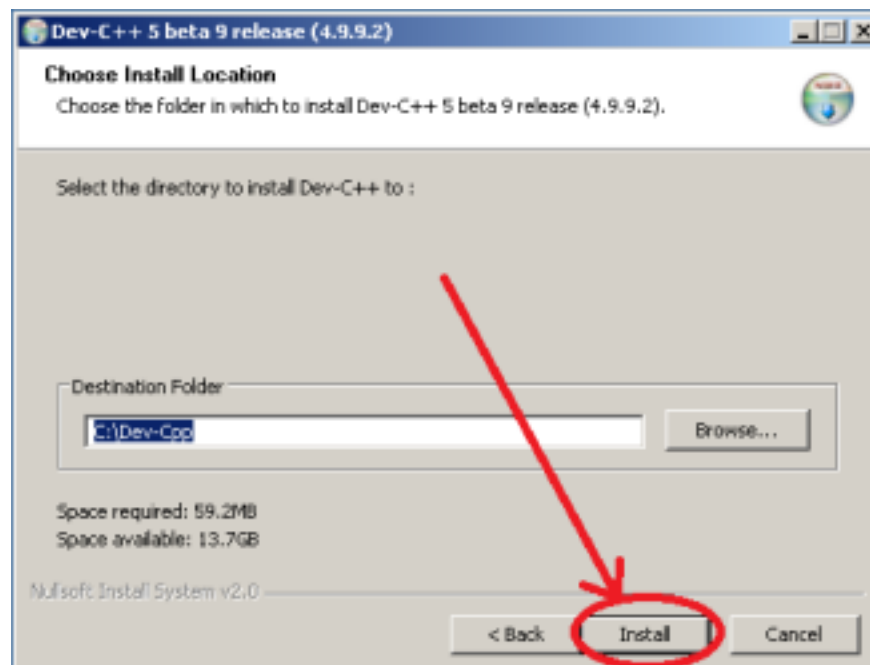   Click on the "I Agree" button to continue

3. Choose Components

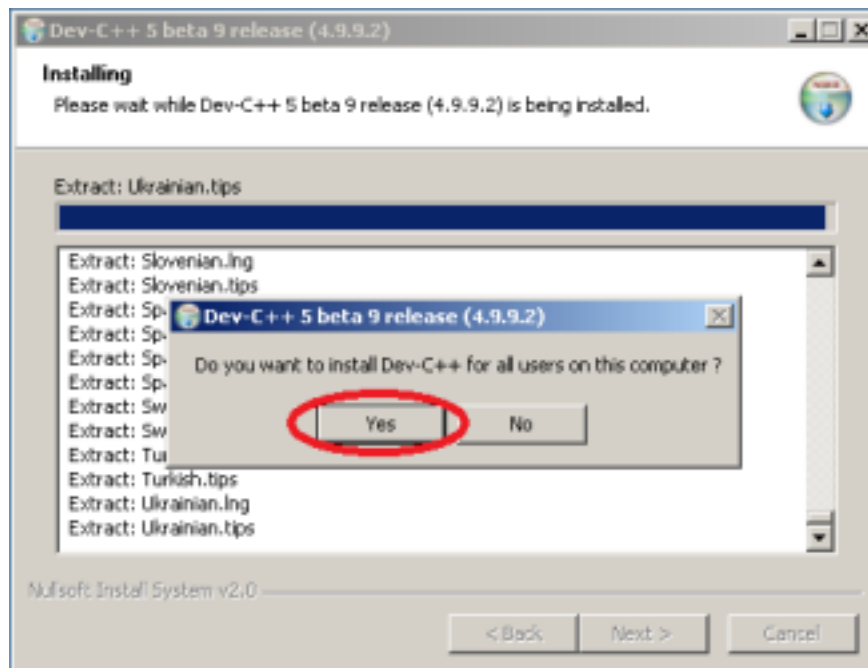Make sure that the type of install is Full and click the Next button to continue

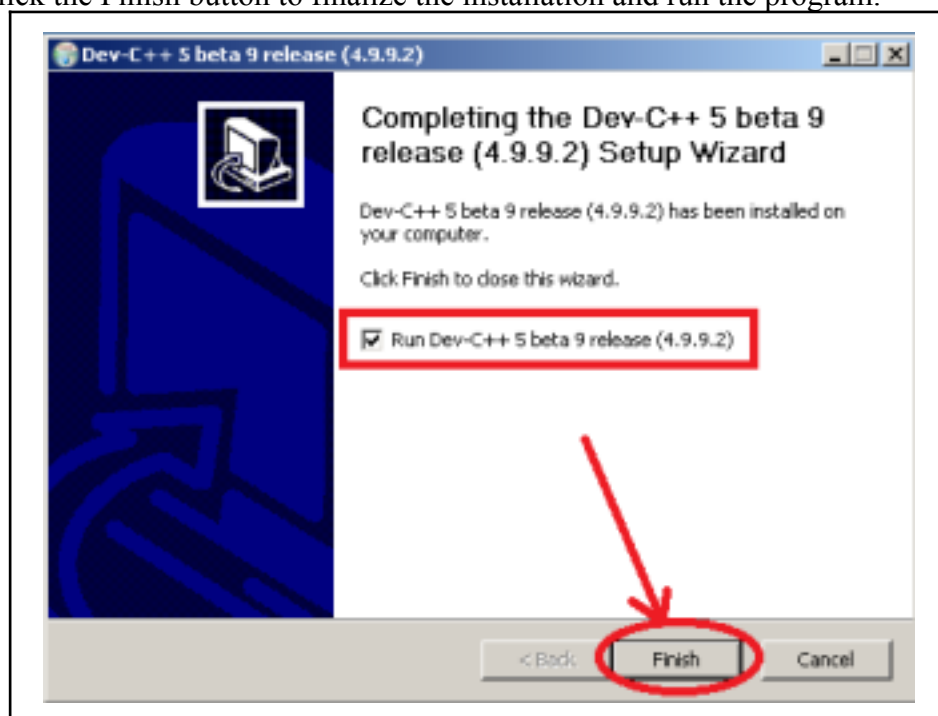4. Choose Install Location
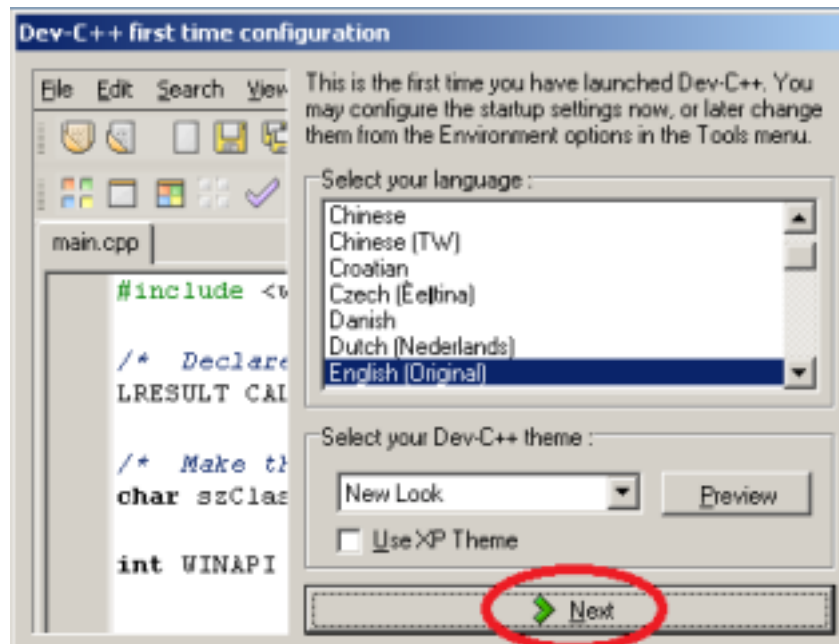   Click the Install button to continue

5. Installing
   Click the Yes button

6. Finished

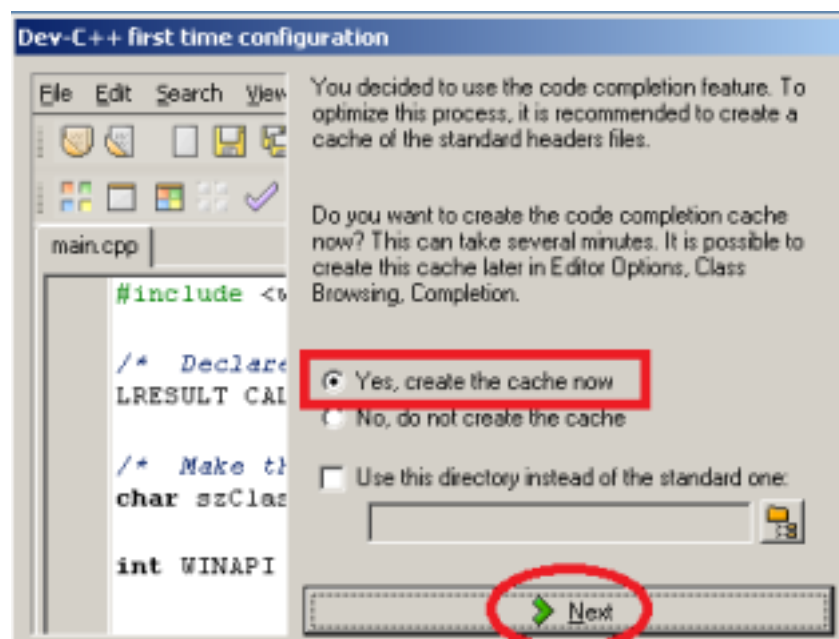Click the Finish button to finalize the installation and run the program.
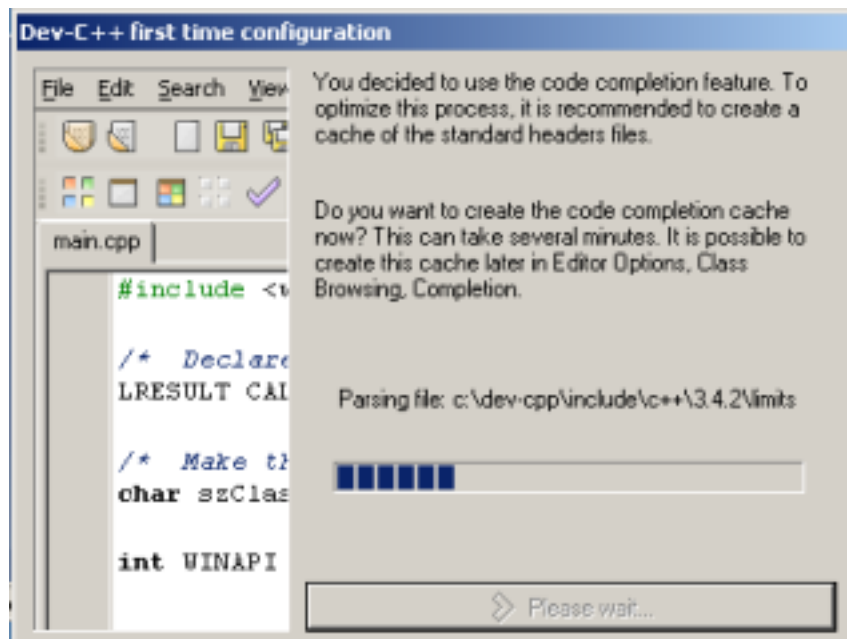

7. First Time Configuration

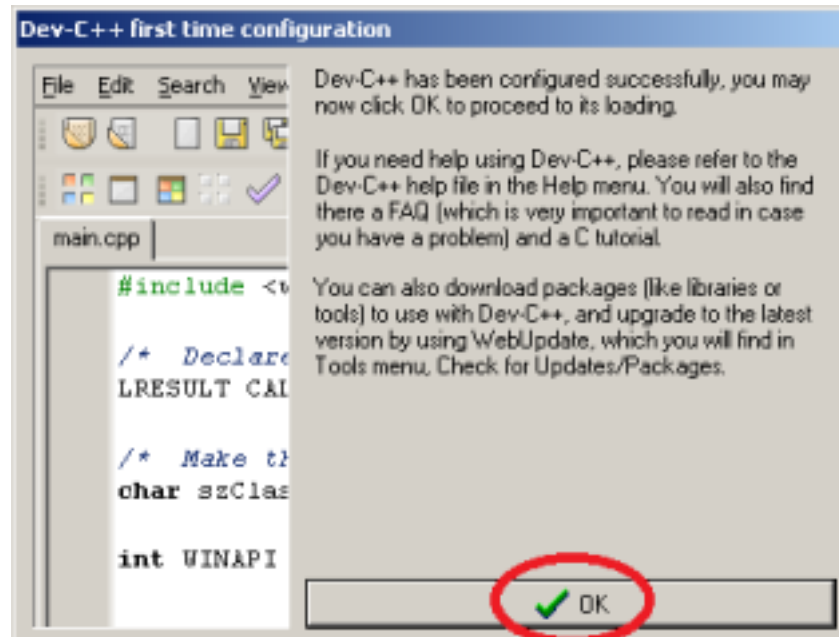Click the Next button to continue

8. First Time Configuration
   Click the Next button to continue

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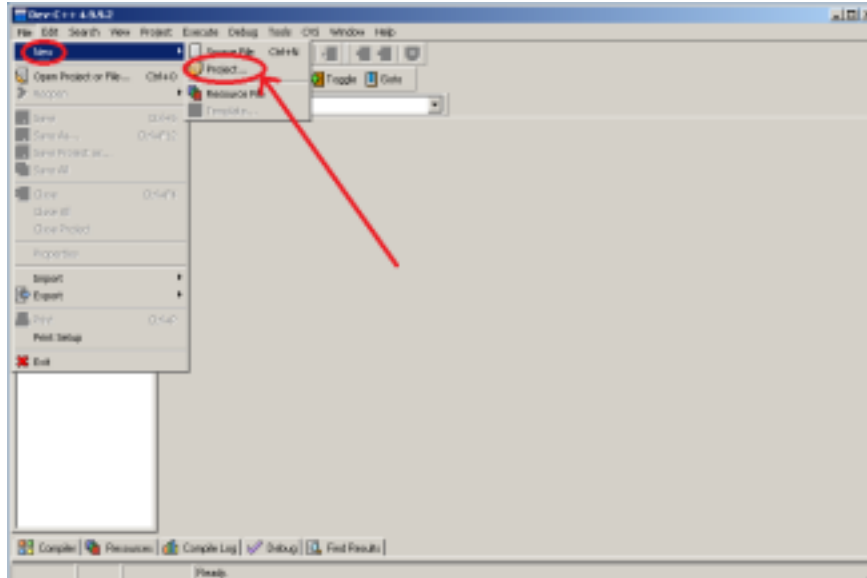 Wait for the Progress Bar to Complete

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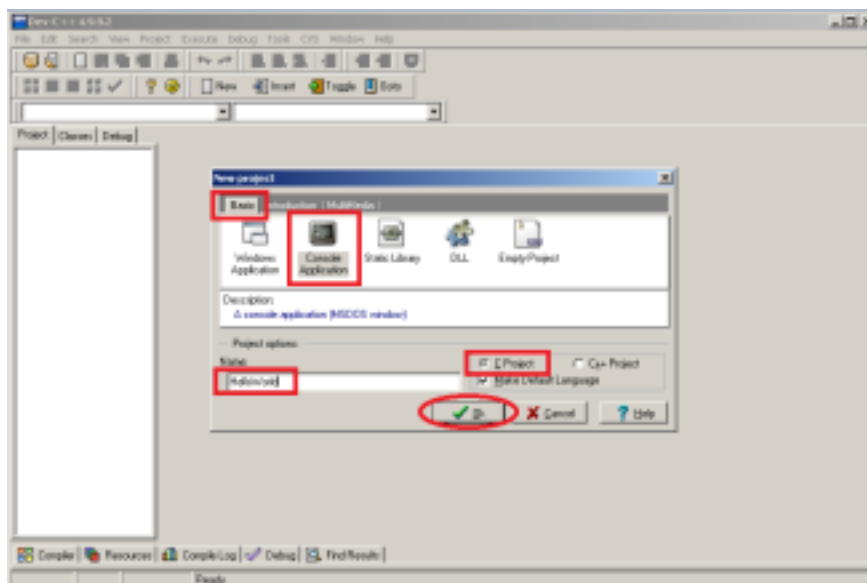
Create New Project
Give a name to your project file and click the Save button to continue

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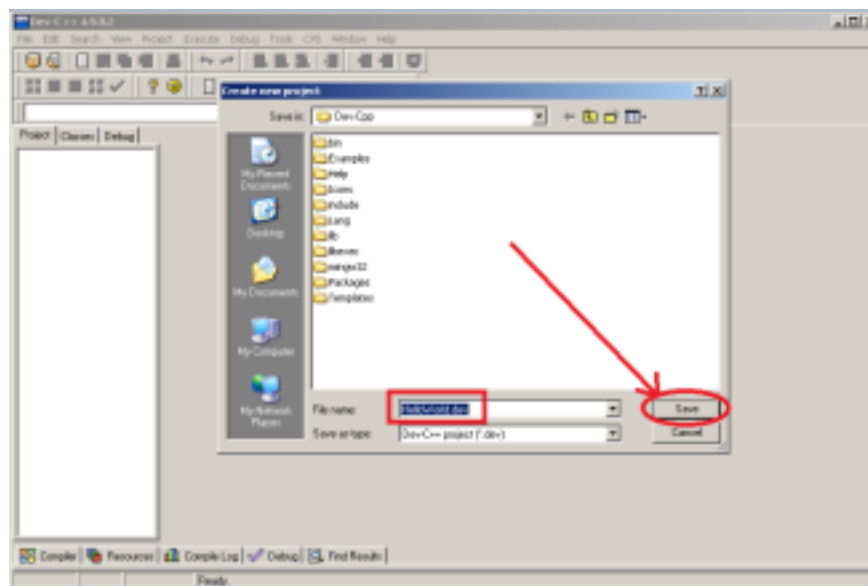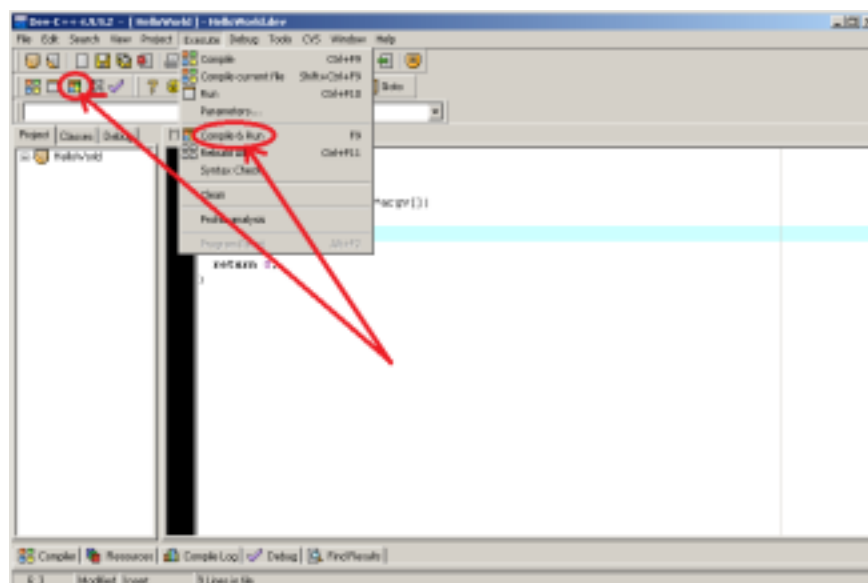
Click "Compile & Run" menu item or the icon displayed in the below screenshot or just Press F9 to compile and run your program.

Running:

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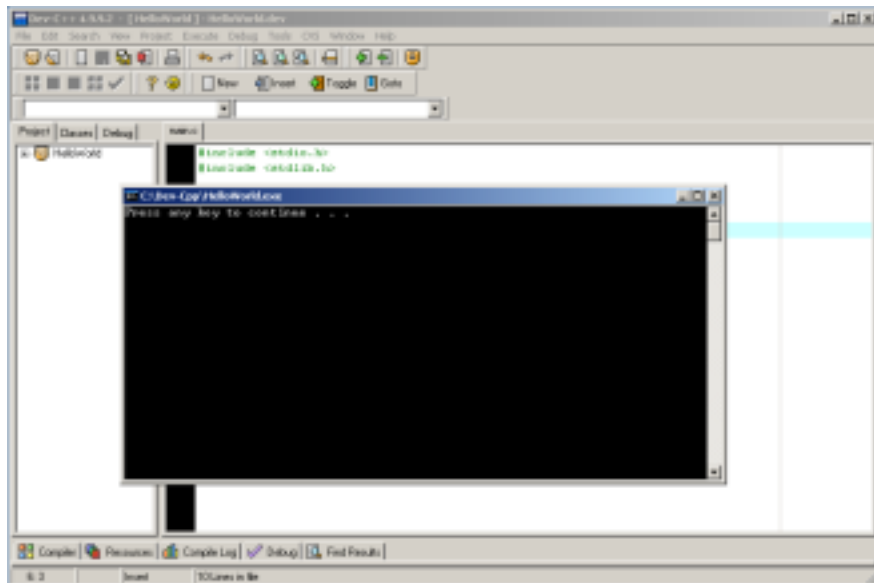
Compile Failed

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?

Answer : Steps to produce an executable file:

- **Write the C program in the editor.**
- **Save the file with a .c extension.**
- **Click "Compile & Run" or press F9.**
- **The compiler converts the source code into an object file.**
- **The linker combines the object file with necessary libraries to generate an executable file.**

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

Answer: Purpose of Compiler & Required Files:

- **A compiler translates source code into machine code.**

- **It checks for syntax errors and generates an object file (`.o` or `.obj`).**

- **Required files: Source code file (`.c`), header files (`.h`), and standard libraries.**

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

Answer:

- **The linker combines object files and library files to produce an executable file.**
- **It resolves function calls and links them to appropriate libraries.**
- **Required files: Object file (`.o` or `.obj`), standard library files (`.lib` or `.a`).**