

## Background

C is a general-purpose, procedural, imperative computer programming language developed in 1972 by Dennis Ritchie at the Bell of AT&T (American Telephone & Telegraph), located in the U.S.A. to develop the UNIX operating system. C is the most widely used computer language.

Martin Richard was developed, Project name is BCPL (Basic Combine Programming Language) in 1967 after that Ken Thompson created new language name was B Language in 1970. Dennis Ritchie after some time to improve B language and to overcome the problems of previous languages such as BCPL and B languages, which resulted in creating a new language C and in the C inherits many features of previous languages such as B and BCPL.

In 1978, Brian Kernighan and Dennis Ritchie produced the first publicly available description of C, now known as the K&R standard. The UNIX operating system, the C compiler, and essentially all UNIX application programs have been written in C. C has now become a widely used professional language for various reasons.

- Easy to learn
- Structured language
- It produces efficient programs
- It can handle low-level activities
- It can be compiled on a variety of computer platforms

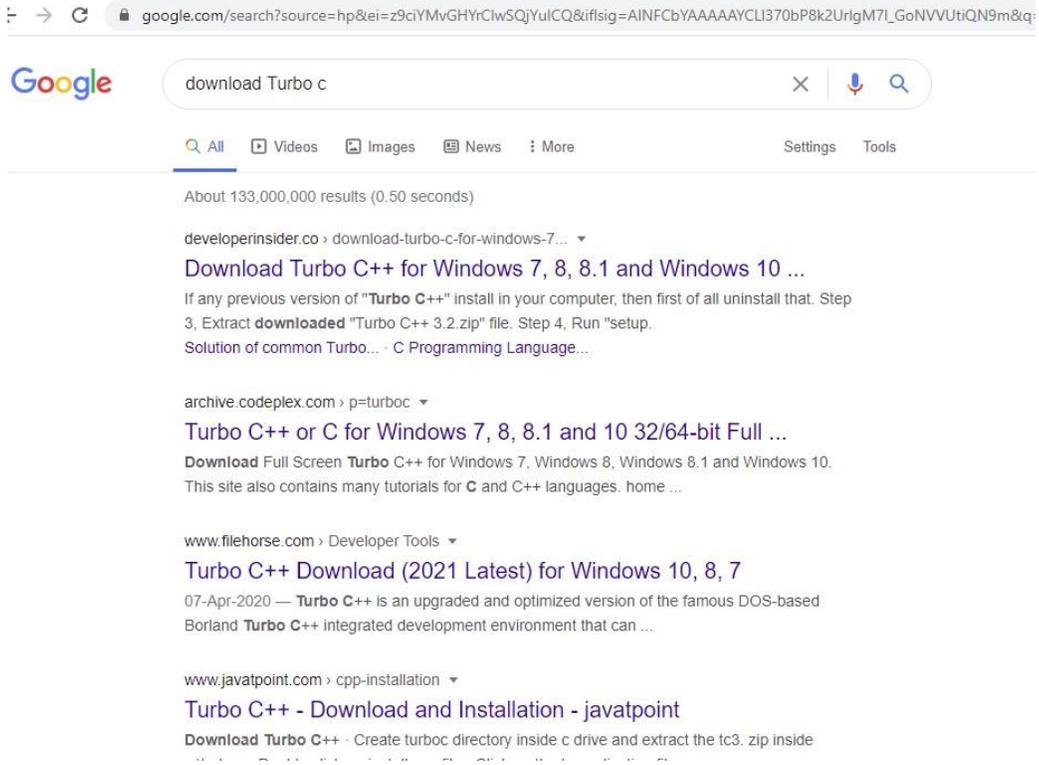
## Why we use C?

C was initially used for system development work, particularly the programs that makeup the operating system. C was adopted as a system development language because it produces code that runs nearly as fast as the code written in assembly language. Some examples of the use of C might be:

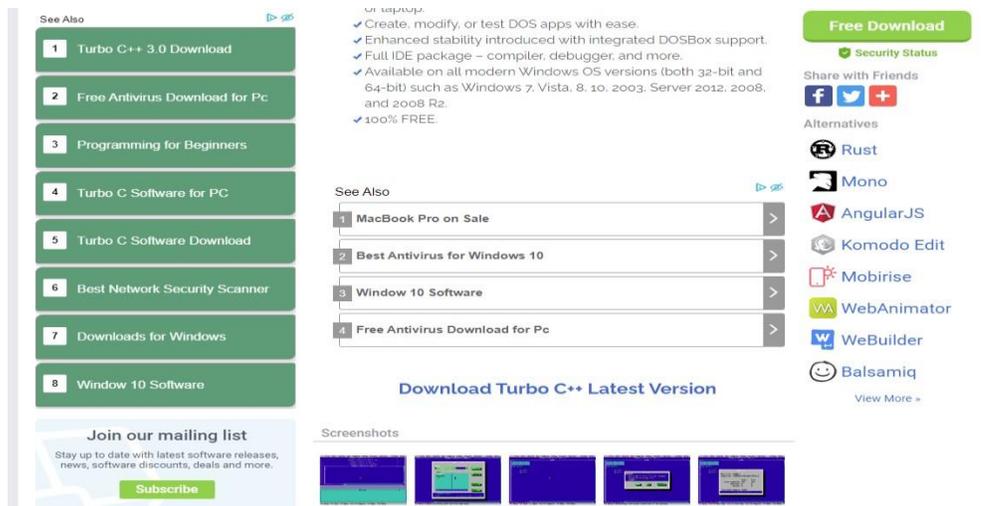
- Operating Systems
- Language Compilers
- Assemblers
- Text Editors
- Print Spoolers
- Network Drivers
- Modern Programs
- Databases
- Language Interpreters
- Utilities

## Setup & Installation

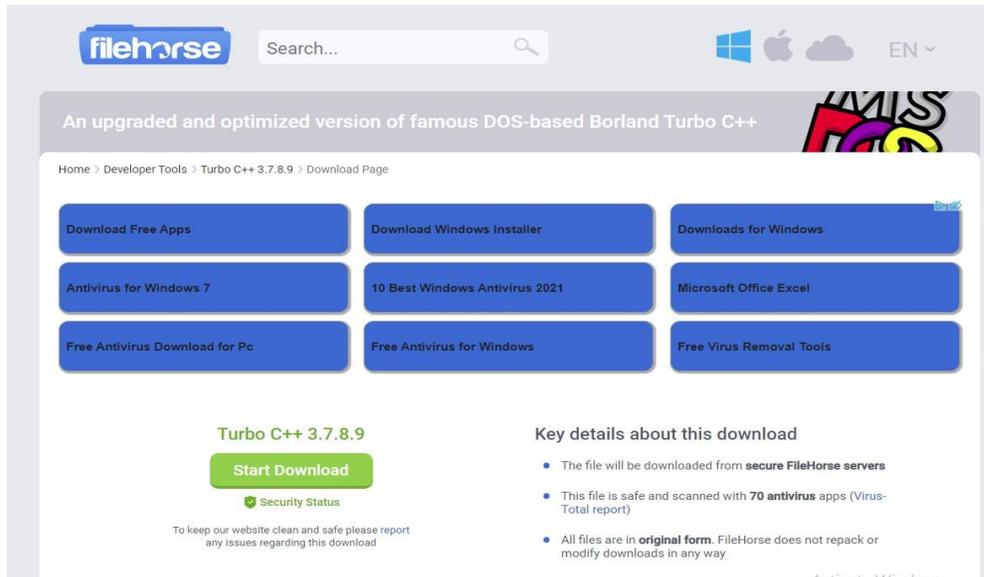
1. Download Turbo C++ for window 7/8/10 for full screen.



2. You click [filehorse.com](http://filehorse.com) link for Turbo C++ IDE download.



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3. We click at link [Download Turbo C++ Latest Version](#)



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4. We click **start download button** then start downloading.
5. After the download completes, you will see **TurboC++ for Windows 7\_v3.7.8.9** file in the download folder.
6. Run or double click on this file then will start the installation.
7. Follow the setup instructions.
8. Finish the press button and start Turbo C++ IDE

### IDE (Integrated Development Environment)

The C Developing Environment is a screen display with windows and pull-down menus. The program listing, error messages and other information are displayed in separate windows. The menus may be used to invoke all the operations necessary to develop the program, including editing, compiling, linking, and debugging and program execution.



If the menu bar is inactive, it may be invoked by pressing the [F10] function key. To select different menu, move the highlight left or right with cursor (arrow) keys. You can also revoke the selection by pressing the key combination for the specific menu.

#### ✓ Invoking the Turbo C++ IDE

The default directory of Turbo C compiler is `c:\TurboC++\Disk\TurboC3`. So to invoke the IDE from the windows you need to double click the MSDOS Turbo C icon in the directory `c:\TurboC++\Disk\TurboC3`.



#### ✓ Opening New Window in Turbo C++

To type a program, you need to open an Edit Window. For this, open file menu and click “new”. A window will appear on the screen where the program may be typed.

#### ✓ Writing a Program in Turbo C++

When the Edit window is active, the program may be typed. Use the certain key combinations to perform specific edit functions.

#### ✓ Saving a Program in Turbo C++

To save the program, select save command from the file menu. This function can also be performed by pressing the [F2] button. A dialog box will appear asking for the path and name of the file. Provide an appropriate and unique file name (the CPP programs are written into text files with extension ".cpp" for example *hello.cpp*). You can save the program after compiling too but saving it before compilation is more appropriate.

#### ✓ Making an Executable File in Turbo C++

The source file is required to be turned into an executable file. This is called “Making” of the .exe file. The steps required to create an executable file are:

1. Create a source file, with a .cpp extension.
2. Compile the source code into a file with the .obj extension.
3. Link your .obj file with any needed libraries to produce an executable program

All the above steps can be done by using Run option from the menu bar or using key combination Ctrl+F9 (By this linking & compiling is done in one step).

✓ **Compiling and linking in the Turbo C++ IDE**

In the Turbo C++ IDE, compiling and linking can be performed together in one step. There are two ways to do this: you can select Make EXE from the compile menu, or you can press the [F9] key

✓ **Correcting Errors in Turbo C++**

If the compiler recognizes some error, it will let you know through the Compiler window. You'll see that the number of errors is not listed as 0, and the word "Error" appears instead of the word "Success" at the bottom of the window. The errors are to be removed by returning to the edit window. Usually these errors are a result of a typing mistake. The compiler will not only tell you what you did wrong, they'll point you to the exact place in your code where you made the mistake.

✓ **Executing a Programs in Turbo C++**

If the program is compiled and linked without errors, the program is executed by selecting Run from the Run Menu or by pressing the [Ctrl+F9] key combination.

✓ **Exiting Turbo C++ IDE**

An Edit window may be closed in a number of different ways. You can click on the small square in the upper left corner, you can select **close** from the **window** menu, or you can press the Alt+F3 combination. To exit from the IDE, select **Exit** from the **File** Menu or press Alt+X Combination.

## Exercise

### Theory Question

1. State some features of “**Turbo C++**” language.
2. Write down the shortcut keys of following.
  - i Save
  - ii Compile
  - iii Run
  - iv Exit from the File
  - v Close Turbo C IDE
3. Why we have to learn Turbo C++ programming, share your opinion?
4. What do understand by the term “**IDE**”?
5. Write down the steps involves to write and execute a “**CPP**” program on Turbo C++ IDE environment (name only).

### Practical Questions.

1. Write steps of Turbo C++ IDE installation or setup process.
2. Write C code to display your Roll Number, Course Name and Technology Name on the Screen.

### Objective and MCQs

1. What is the default extension that most C source file uses to process C compiler?
  - a) .html
  - b) .cpp
  - c) .java
  - d) .text
2. Who is invented of C language?
  - a) Denis Retchie
  - b) Rasmus Lerdorf
  - c) John Baker
  - d) Andi Gutmans
3. Turbo C version is
  - a) 4.0
  - b) 3.0
  - c) 2.3
  - d) 6.0

4. Abbreviation of IDE
  - a) Interface development Environment
  - b) International develop Environment.
  - c) Integrated development environment.
  - d) None
  
5. To exit from the IDE
  - a) Ctrl+F9
  - b) F9.
  - c) Alt+F5.
  - d) Alt+X
  
6. The program is executed by selecting Run from the Run Menu or by pressing the \_\_\_\_ key combination.
  - a) Ctrl+F9
  - b) F9.
  - c) Alt+F5.
  - d) Alt+F3
  
7. Compile the source code into a file with the \_\_\_\_ extension.
  - a) .exe
  - b) .bin
  - c) .obj
  - d) .cpp
  
8. To save the program file that function key is
  - a) F2
  - b) F1
  - c) F5
  - d) F3
  
9. To display the output screen that function key is
  - a) F2
  - b) Alt+F1
  - c) Alt+F5
  - d) F3