



NATIONAL UNIVERSITY
of Computer & Emerging Sciences

Name: Muhammad Musawar Ali Shah

Roll No. 24P-0619

Dept: BSCS

Subject: ICT

MUSAWAR ALI SHAH

Submitted To:

Sir Shahzaib Ur
Rehman

VIM and G++ Installation

What is Vim:

Vim, short for Vi IMproved, is a highly configurable text editor built to enable efficient text editing. It's an enhanced version of the Vi editor, which was developed back in the 1970s. Vim is widely used by programmers, system administrators, and anyone who spends a significant amount of time working in the terminal.

Vim Installation Process:

Before installation the vim, we have to update list of available packages and their versions stored in system package index.

Note: This step is not compulsory, you can just skip this step.

To update, we have to open terminal and run this command: **sudo apt update**. This command will install all necessary updates for your PC.

```
musawarsayed@musawarsayed-Lenovo-V14-G3-IAP:~$ sudo apt update
[sudo] password for musawarsayed:
Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [354 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [79.4 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [4,416 B]
Get:8 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [317 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-e
```

After updation has been done, you just install Vim on your pc from some simple commands

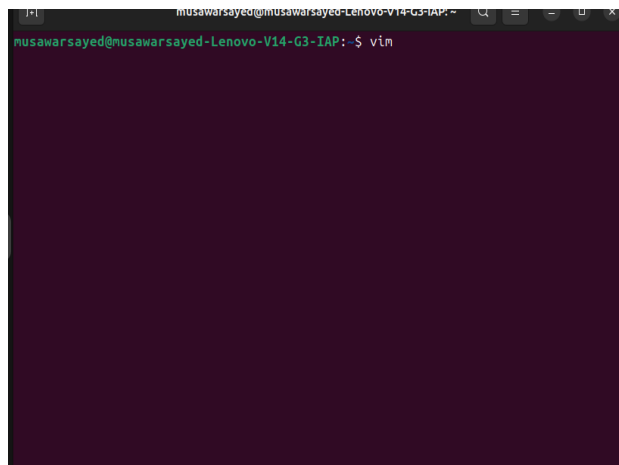
```
musawarsayed@musawarsayed-Lenovo-V14-G3-IAP:~$ vim
Command 'vim' not found, but can be installed with:
sudo apt install vim # version 2:9.1.0016-1ubuntu7.2, or
sudo apt install vim-gtk3 # version 2:9.1.0016-1ubuntu7.2
sudo apt install vim-motif # version 2:9.1.0016-1ubuntu7.2
sudo apt install vim-nox # version 2:9.1.0016-1ubuntu7.2
sudo apt install neovim # version 0.7.2-8
musawarsayed@musawarsayed-Lenovo-V14-G3-IAP:~$ sudo apt-get -y install vim
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libsodium23 vim-runtime
Suggested packages:
  ctags vim-doc vim-scripts
The following NEW packages will be installed:
  libsodium23 vim vim-runtime
0 upgraded, 3 newly installed, 0 to remove and 5 not upgraded.
Need to get 9,320 kB of archives.
After this operation, 42.0 MB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/main amd64 libsodium23 amd64 1.0.18-1build3 [161 kB]
8% [Working]
```

To install vim, write the command **sudo apt-get -y install vim** and press enter. It will automatically install vim on your systems.

After installation Vim, you have to check whether it is successfully installed or not.

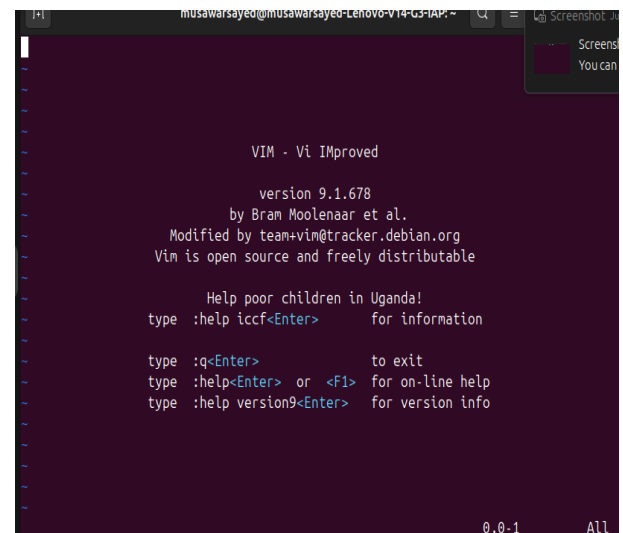
To check this, you have to run the command **vim --version** and press enter. It will show the version of vim installed on your system.

```
musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~  
musawarsayed@musawarsayed-Lenovo-V14-G3-IAP:~$ vim --version  
VIM - Vi IMproved 9.1 (2024 Jan 02, compiled Aug 27 2024 04:08:09)  
Included patches: 1-16, 647, 678  
Modified by team+vim@tracker.debian.org  
Compiled by team+vim@tracker.debian.org  
Huge version without GUI.  Features included (+) or not (-):  
+acl                +file_in_path      +mouse_urxvt       -tag_any_white  
+arabic             +find_in_path      +mouse_xterm       -tcl  
+autocmd            +float             +multi_byte        +termguicolors  
+autochdir          +folding           +multi_lang        +terminal  
-autoservername     -footer            -mzscheme          +terminfo  
-balloon_eval       +fork()            +netbeans_intg     +termresponse  
+balloon_eval_term +gettext           +num64             +textobjects  
-browse            -hangul_input      +packages          +textprop  
++builtin_terms     +iconv             +path_extra        +timers  
+byte_offset        +insert_expand     -perl              +title  
+channel            +ipv6              +persistent_undo   -toolbar  
+cindent            +job               +popupwin          +user_commands  
+clientserver       +jumplist          +postscript        +vartabs  
+clipboard          +keymap            +printer           +vertsplit  
+cmdline_compl      +lambda            +profile           +viminfo  
+cmdline_hist       +langmap           +python            +vminfo  
+cmdline_info       +libcall           +python3           +virtualedit  
+comments           +linebreak         +quickfix          +visual
```



You can run the vim on the terminal by typing **vim** in the terminal.

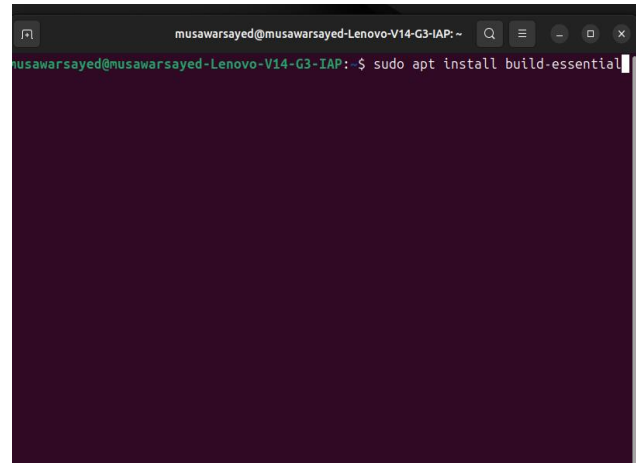
The vim editor will look like this ==>



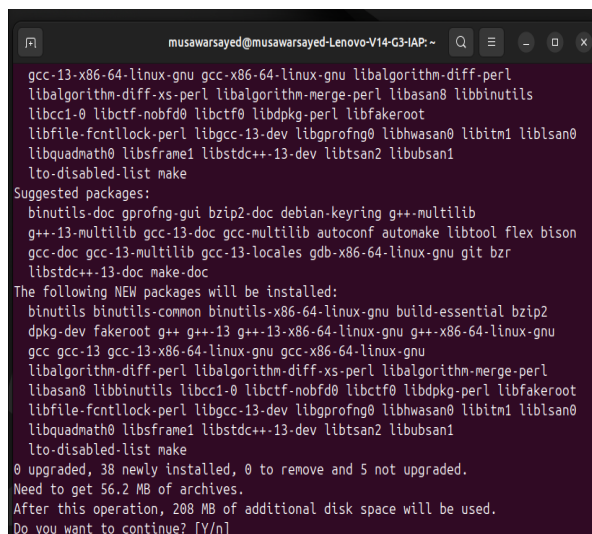
Gcc And G++ Installation process:

To install gcc and g++ on your system. You have to do some simple and basic tasks and run some basic commands.

First you need to run the following command on your terminal. **sudo apt install build-essential**.



```
musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~  
musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~$ sudo apt install build-essential
```

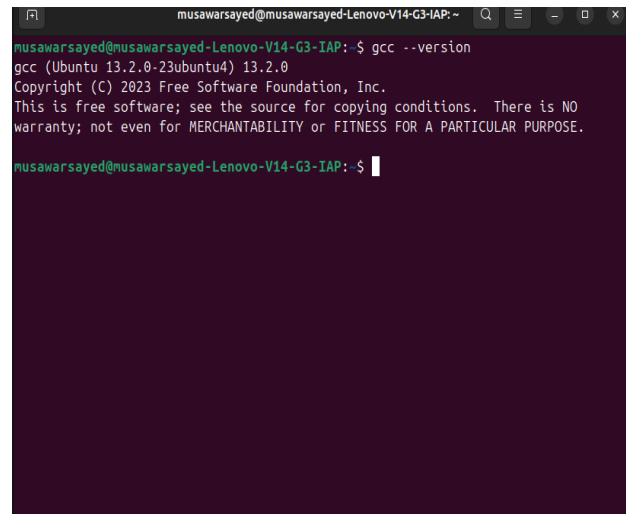
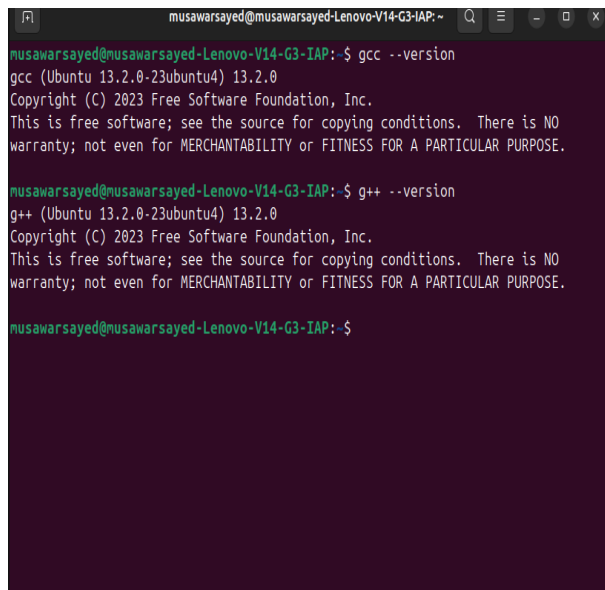


```
musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~  
gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu libalgorithm-diff-perl  
libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan8 libbinutils  
libbcc1-0 libctf-nobfd0 libctf0 libdpkg-perl libfakeroot  
libfile-fcntllock-perl libgcc-13-dev libgprofng0 libhwasan0 libitm1 liblsan0  
libquadmath0 libsframe1 libstdc++-13-dev libtsan2 libubsan1  
lto-disabled-list make  
Suggested packages:  
binutils-doc gprofng-gui bzip2-doc debian-keyring g++-multilib  
g++-13-multilib gcc-13-doc gcc-multilib autoconf automake libtool flex bison  
gcc-doc gcc-13-multilib gcc-13-locales gdb-x86-64-linux-gnu git bzr  
libstdc++-13-doc make-doc  
The following NEW packages will be installed:  
binutils binutils-common binutils-x86-64-linux-gnu build-essential bzip2  
dpkg-dev fakeroot g++ g++-13 g++-13-x86-64-linux-gnu g++-x86-64-linux-gnu  
gcc gcc-13 gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu  
libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl  
libasan8 libbinutils libbcc1-0 libctf-nobfd0 libctf0 libdpkg-perl libfakeroot  
libfile-fcntllock-perl libgcc-13-dev libgprofng0 libhwasan0 libitm1 liblsan0  
libquadmath0 libsframe1 libstdc++-13-dev libtsan2 libubsan1  
lto-disabled-list make  
0 upgraded, 38 newly installed, 0 to remove and 5 not upgraded.  
Need to get 56.2 MB of archives.  
After this operation, 208 MB of additional disk space will be used.  
Do you want to continue? [Y/n]
```

It will automatically start installing the build essentials and compilers like gcc and g++ on your system.

You can see in the bottom written **Do you want to continue? [Y/n]** just click Y and press enter.

To check the version of gcc, write **gcc --version** in the terminal and it will show you which version of gcc is installed on your system.

A terminal window with a dark purple background. The title bar reads 'musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~'. The prompt is 'musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~'. The user has entered 'gcc --version'. The output is: 'gcc (Ubuntu 13.2.0-23ubuntu4) 13.2.0', 'Copyright (C) 2023 Free Software Foundation, Inc.', 'This is free software; see the source for copying conditions. There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.', and a new prompt 'musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~'.A terminal window with a dark purple background. The title bar reads 'musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~'. The prompt is 'musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~'. The user has entered 'gcc --version'. The output is: 'gcc (Ubuntu 13.2.0-23ubuntu4) 13.2.0', 'Copyright (C) 2023 Free Software Foundation, Inc.', 'This is free software; see the source for copying conditions. There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.', and a new prompt 'musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~'. The user has entered 'g++ --version'. The output is: 'g++ (Ubuntu 13.2.0-23ubuntu4) 13.2.0', 'Copyright (C) 2023 Free Software Foundation, Inc.', 'This is free software; see the source for copying conditions. There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.', and a new prompt 'musawarsayed@musawarsayed-Lenovo-V14-G3-IAP: ~'.

To check g++ version, you have to just type **g++ --version**, it will show the version of g++ installed on your system.