



National Textile University
Department of Computer Science
Subject: Operating System

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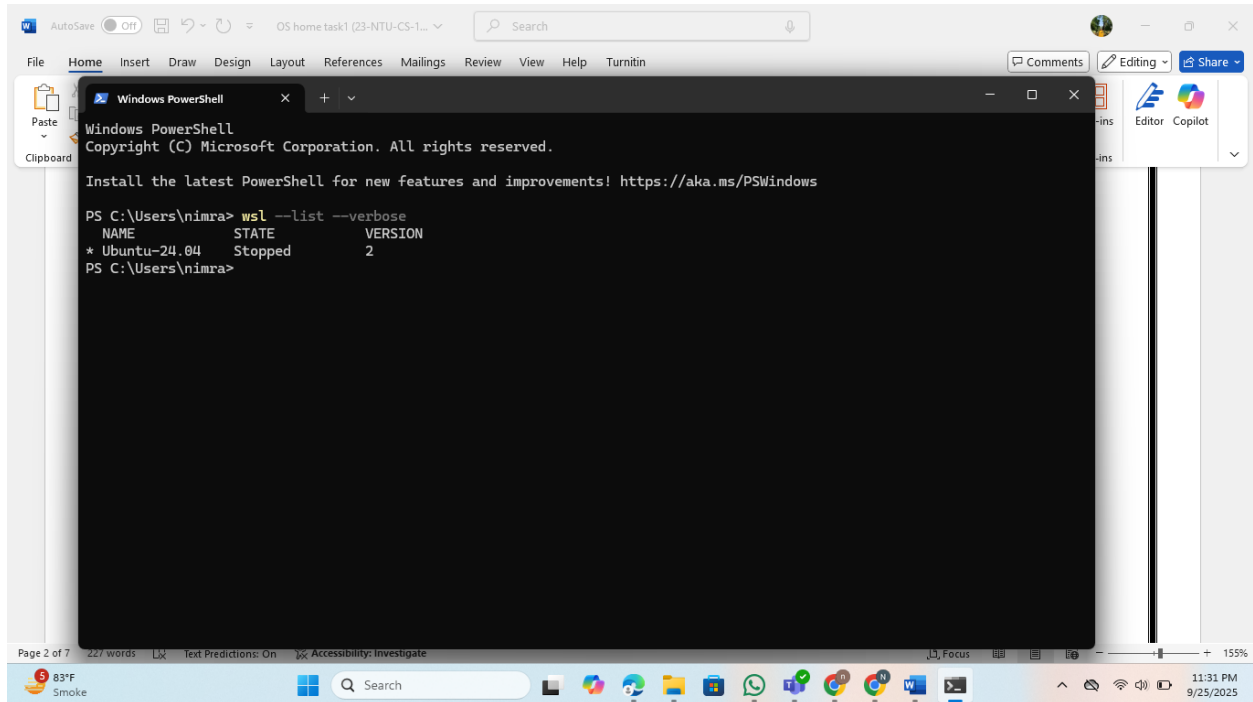
Reg number:23-NTU-CS-1201

Home Task

Semester:5th

Task 01:

- Verify WSL2 & Ubuntu Setup:



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

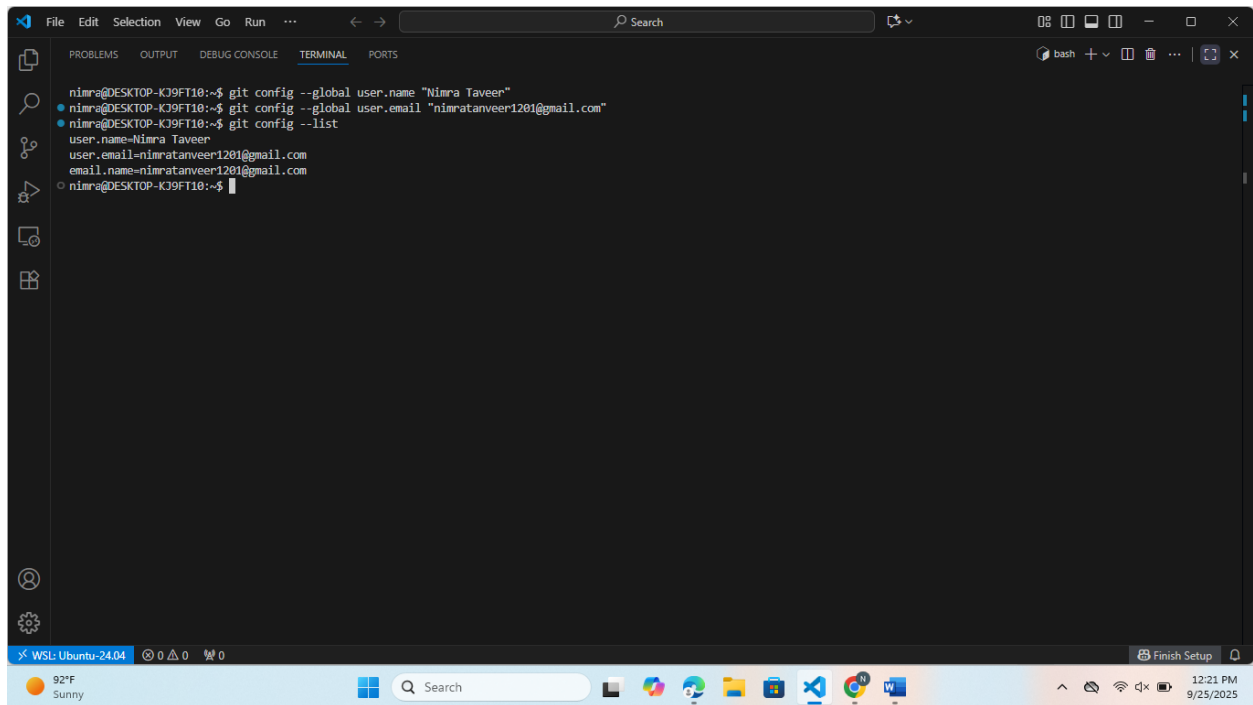
PS C:\Users\nimra> wsl --list --verbose
   NAME                STATE              VERSION
* Ubuntu-24.04         Stopped            2
PS C:\Users\nimra>
```

- Update Ubuntu environment:

```
Ubuntu-24.04
nimra@DESKTOP-KJ9FT10:~$ sudo apt update && sudo apt upgrade -y
[sudo] password for nimra:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1443 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1171 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [282 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [175 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [15.3 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1485 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [378 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [31.1 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [1957 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [198 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.6 kB]
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [441 kB]
Get:17 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [8744 B]
Get:18 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [880 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:20 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:21 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7060 B]
Get:22 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [19.2 kB]
Get:23 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:24 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:25 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [195 kB]
Get:26 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.2 kB]
Get:27 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [18.0 kB]
Get:28 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [1872 kB]
Get:29 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [423 kB]
Get:30 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:31 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Fetched 11.5 MB in 11s (1079 kB/s)
```

- Configuring Git hub

I am entering following commands git config –global as you can see, to find user name and email.



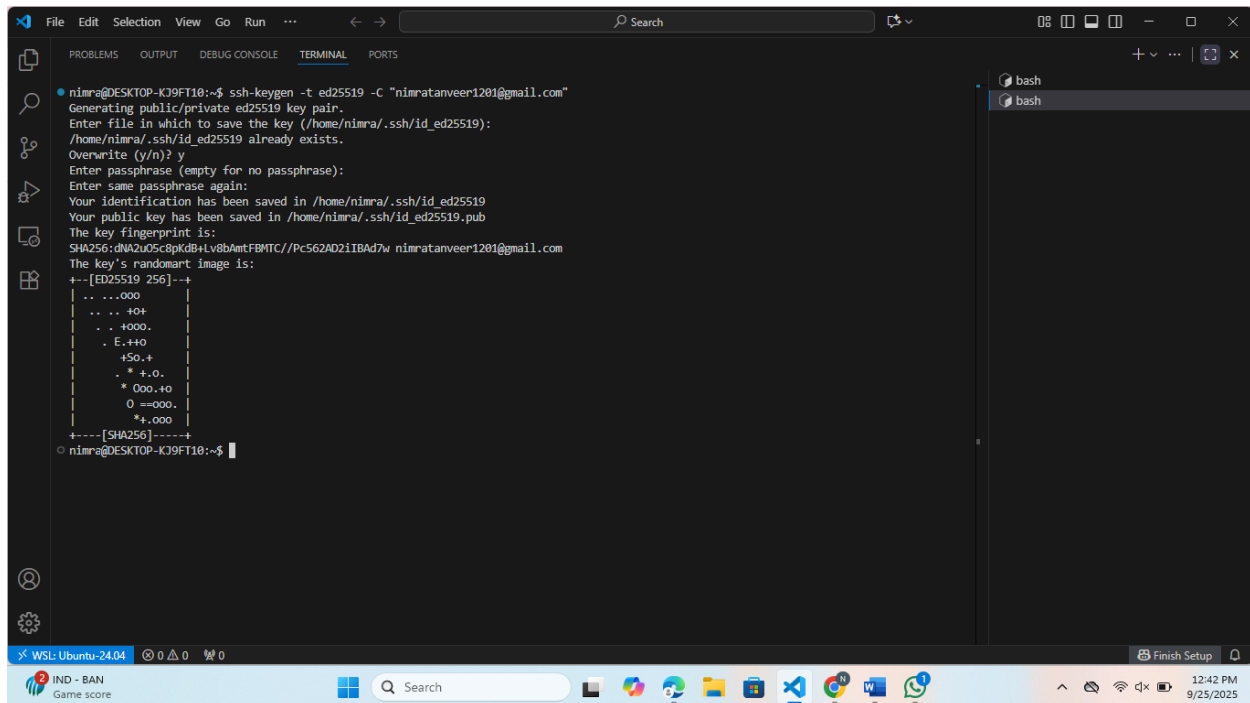
```
nimra@DESKTOP-KJ9FT10:~$ git config --global user.name "Nimra Taveen"
nimra@DESKTOP-KJ9FT10:~$ git config --global user.email "nimratanveer1201@gmail.com"
nimra@DESKTOP-KJ9FT10:~$ git config --list
user.name=Nimra Taveen
user.email=nimratanveer1201@gmail.com
email.name=nimratanveer1201@gmail.com
nimra@DESKTOP-KJ9FT10:~$
```

The screenshot shows a Visual Studio Code window with a terminal pane. The terminal displays the execution of three git configuration commands. The first two commands set the global user name and email. The third command lists the configured values, which are displayed on the following lines. The status bar at the bottom indicates the environment is WSL: Ubuntu-24.04.

Ssh key:

Fo finding ssh key I should follow some instructions:

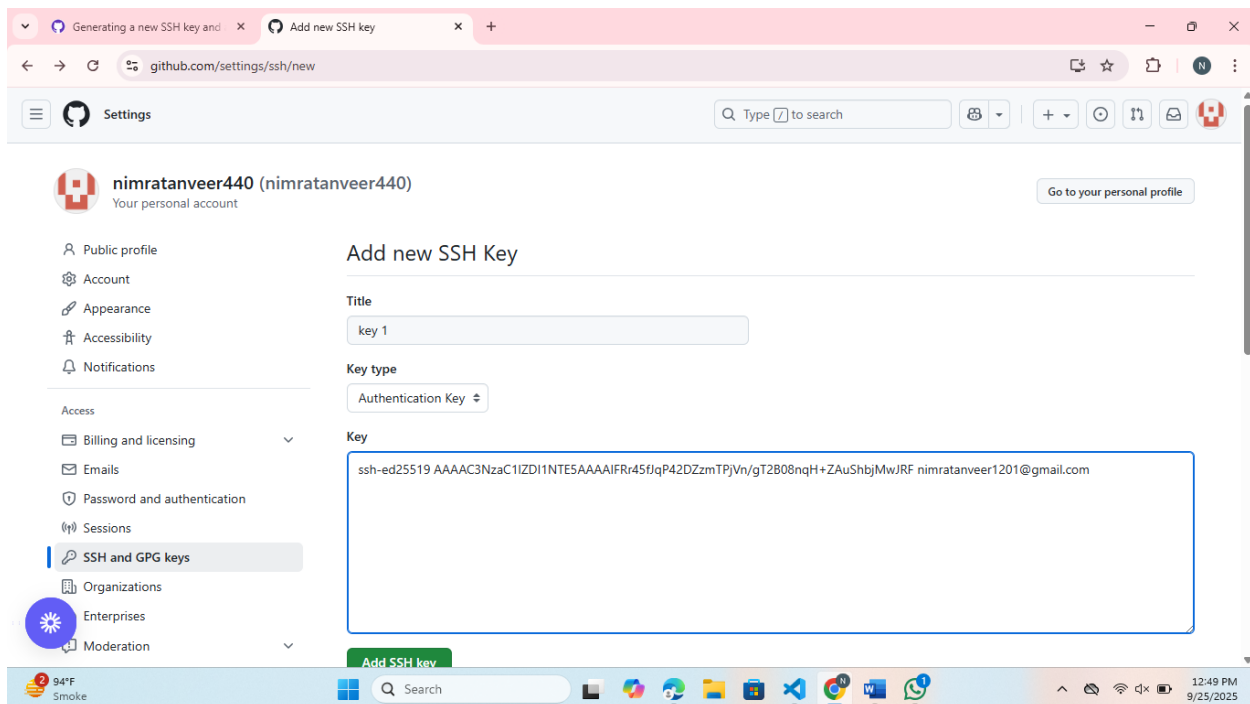
- First, I should opened my GitHub and go to settings.
- Click the option on the ssh keys.
- Opened it ,go to Linux and copied the path of ssh keys.
- By this its generating private and public keys.
- By pressing enter and enter commands will be run and getting new ssh keys.

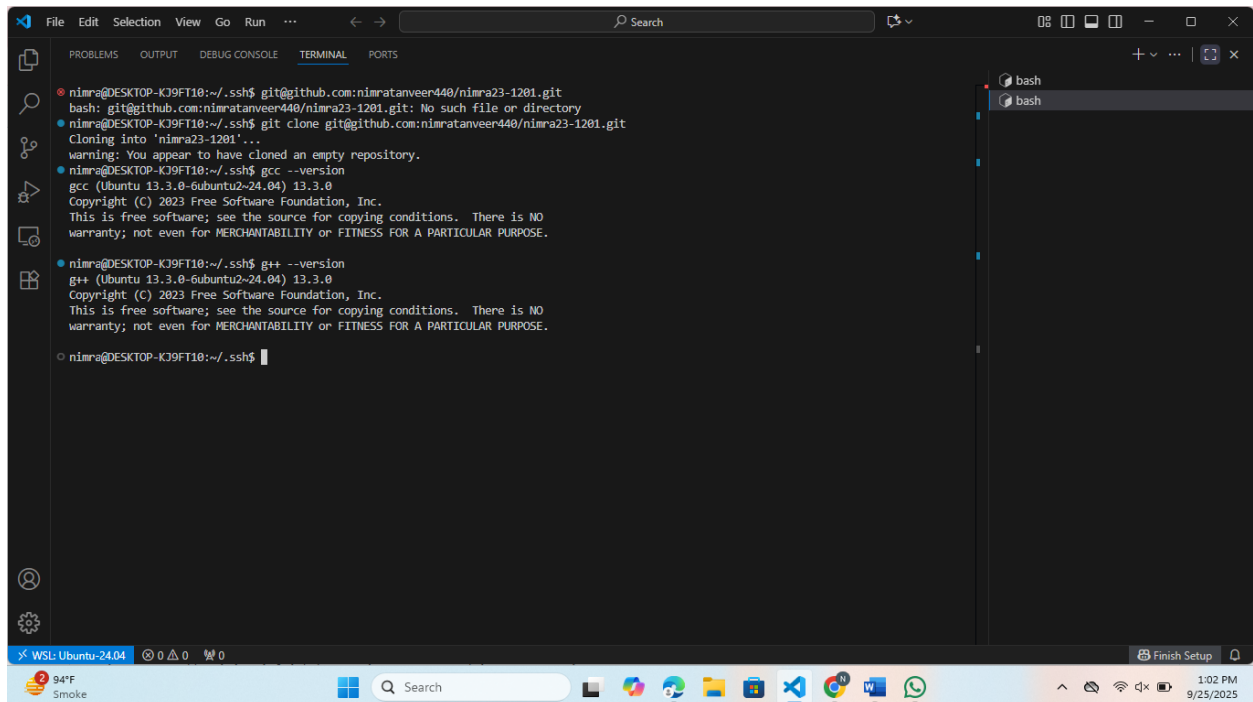
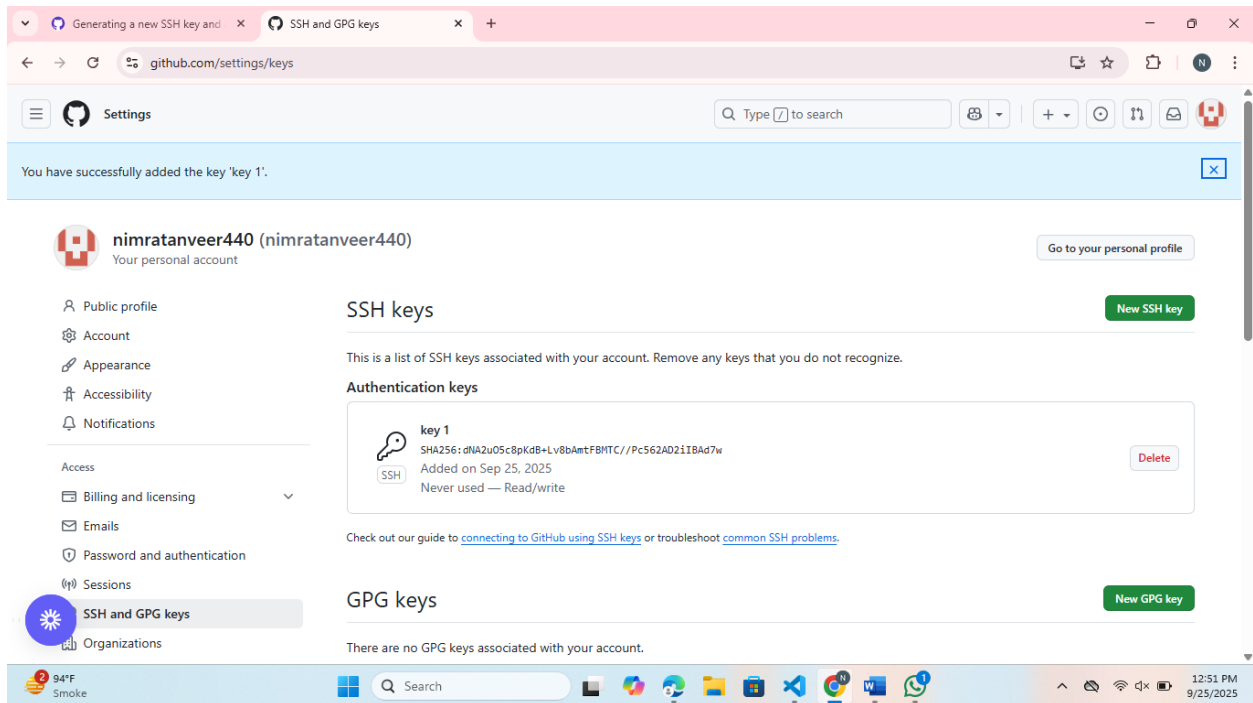


```
nimra@DESKTOP-KJ9FT10:~$ ssh-keygen -t ed25519 -C "nimratnveer1201@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/nimra/.ssh/id_ed25519):
/home/nimra/.ssh/id_ed25519 already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/nimra/.ssh/id_ed25519
Your public key has been saved in /home/nimra/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:duv2u25c8pkUB4tV8B4mtFBMTC//Pc562AD2iIBAd7w nimratnveer1201@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
..  ...000
..  ...40+
..  ...+000.
..  ...+000.
..  ...E..+0
..  ...+S0.+
..  ...*+.0.
..  ...*000.40
..  ...0==000.
..  ...*+.000
..  ...
+----[SHA256]-----+
nimra@DESKTOP-KJ9FT10:~$
```

- Again go to github and go to profile ,

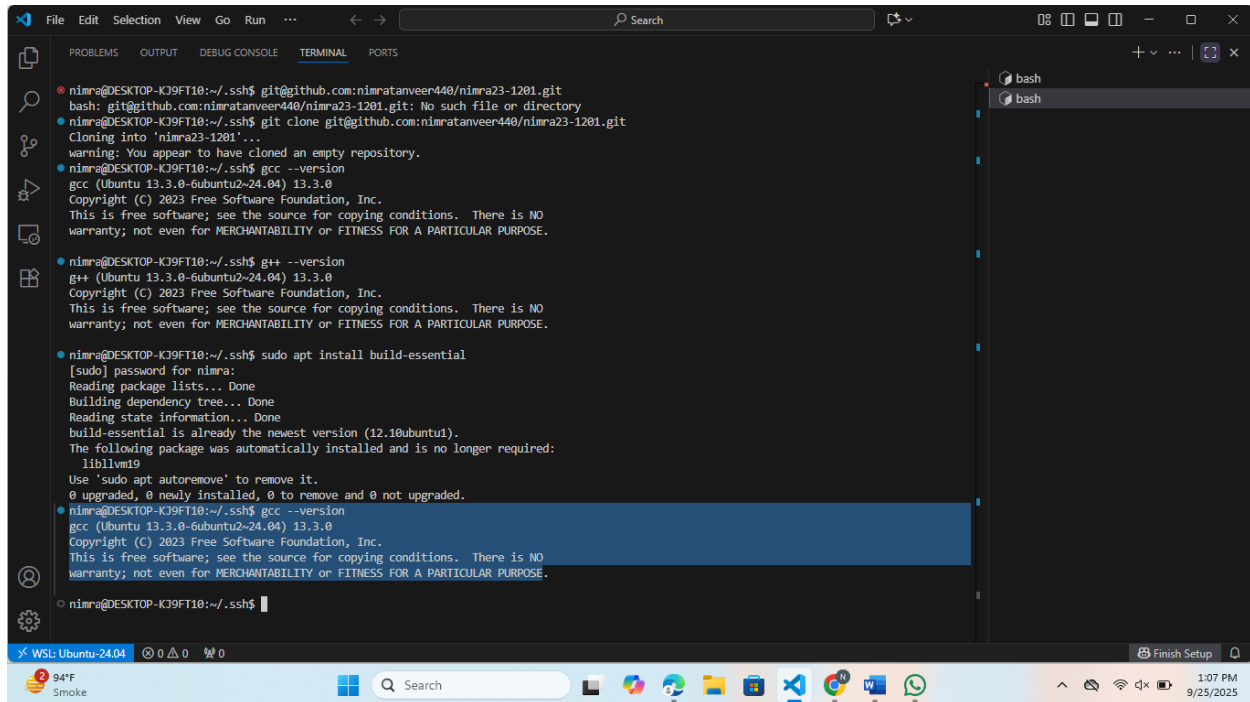
Open SSH keys and paste the new key in add new ssh key and press on saved ssh key.





- For checking its ubuntu version we should add a command and press enter.

Gcc --version



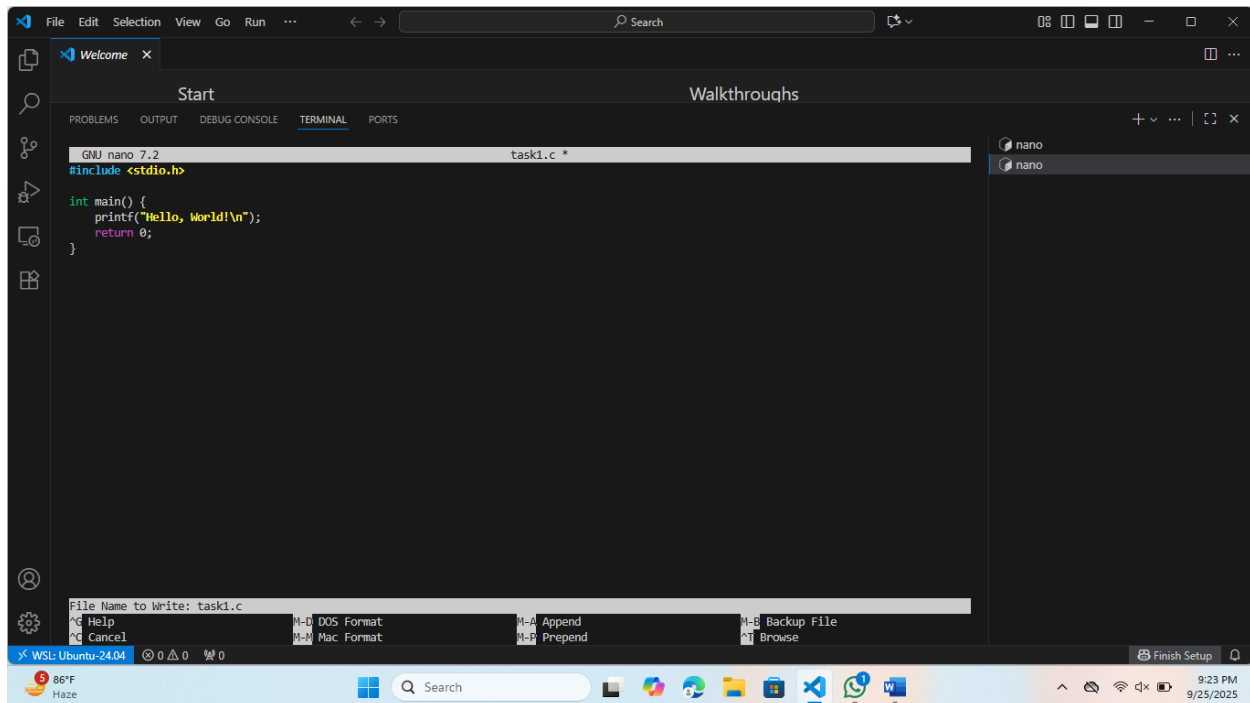
```
nimra@DESKTOP-KJ9FT10:~/ssh$ git@github.com:nimratanveer440/nimra23-1201.git
bash: git@github.com:nimratanveer440/nimra23-1201.git: No such file or directory
nimra@DESKTOP-KJ9FT10:~/ssh$ git clone git@github.com:nimratanveer440/nimra23-1201.git
Cloning into 'nimra23-1201'...
warning: You appear to have cloned an empty repository.
nimra@DESKTOP-KJ9FT10:~/ssh$ gcc --version
gcc (Ubuntu 13.3.0-6ubuntu2-24.04) 13.3.0
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This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

nimra@DESKTOP-KJ9FT10:~/ssh$ g++ --version
g++ (Ubuntu 13.3.0-6ubuntu2-24.04) 13.3.0
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.

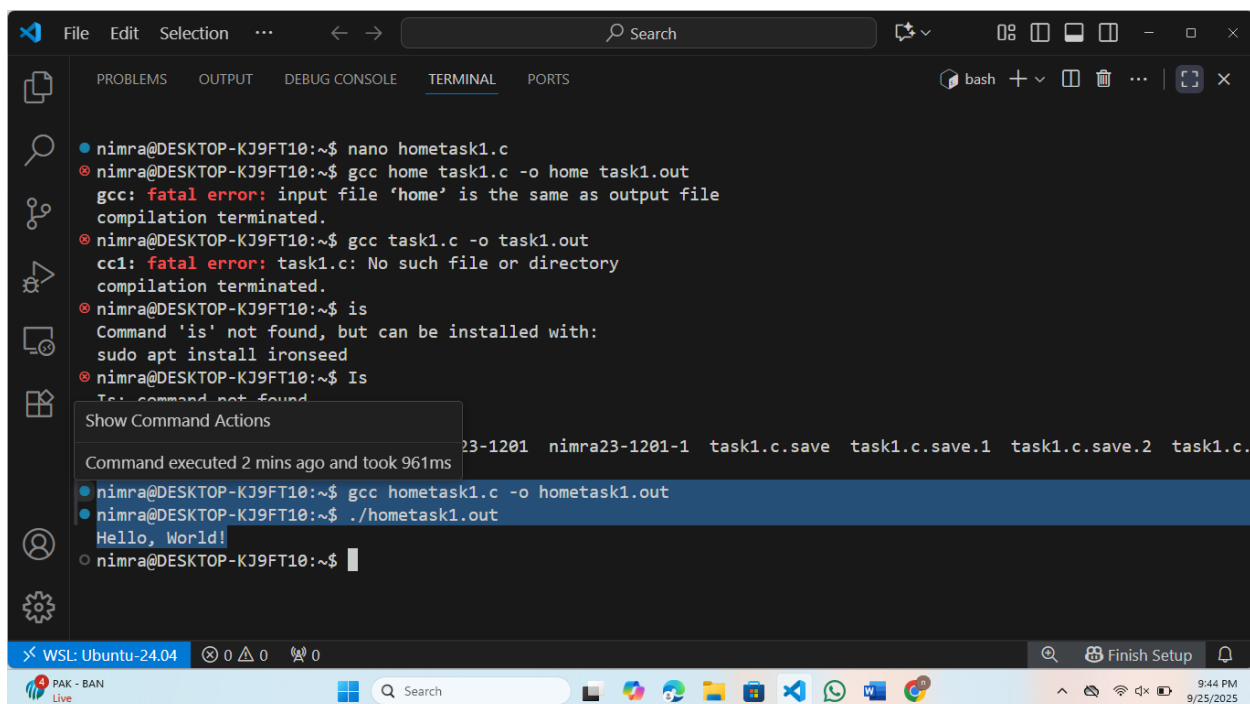
nimra@DESKTOP-KJ9FT10:~/ssh$ sudo apt install build-essential
[sudo] password for nimra:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
build-essential is already the newest version (12.10ubuntu1).
The following package was automatically installed and is no longer required:
  libllvm19
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
nimra@DESKTOP-KJ9FT10:~/ssh$ gcc --version
gcc (Ubuntu 13.3.0-6ubuntu2-24.04) 13.3.0
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This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

nimra@DESKTOP-KJ9FT10:~/ssh$
```

- Open new terminal, enter nano task1.c giving name by press enter.
- Nano site will be opened, I am writing some code and press ctrl+o.
- Its asked for saving the file name and I will able to changed its name and then again ctrl+o and press enter and for exit pressing ctrl +x .



- For getting our output we should enter a command of gcc . out to getting our codes output.



- Source code of c:


```
include int main()  
{ printf("Hello, World!\n");  
return 0; }
```