A logo of a company

AI-generated content may be incorrect.

National Textile University

**Department of Computer Science**

Subject:

Operating System

Submitted to:

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Submitted by:

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Reg. number:

23-NTU-CS-FL-1132

Semester:

5th - A

**Operating Systems – COC 3071L**

**SE 5th A – Fall 2025**

# Objective

The purpose of this assignment is to:

1. Configure **Ubuntu** inside **WSL2 (Windows Subsystem for Linux v2)**.
2. Install and configure **Git** in Ubuntu.
3. Generate and set up **SSH keys** to connect with GitHub.
4. Install the **C development environment** in Ubuntu.

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Write a

**Hello World**

program in

C

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# Part A: WSL2 & Ubuntu Setup

1. **Verify WSL2 and Ubuntu installation**

Verify installation by running the following command in powershell:

wsl

--

list

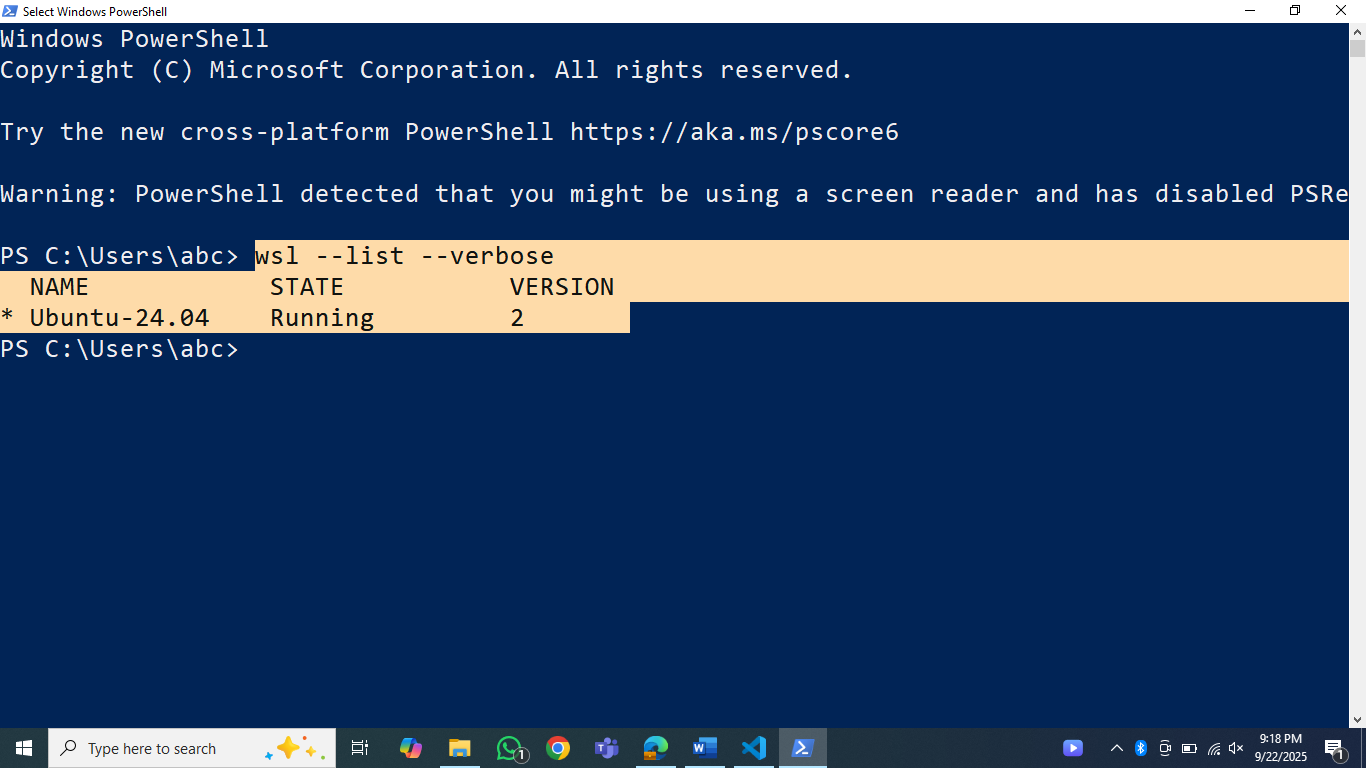
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Submit a screenshot showing Ubuntu installed and running on WSL2.



1. **Update Ubuntu environment**

Run the following command in Ubuntu:

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# Part B: Git & GitHub SSH Setup

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**Configure Git**

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Show your config:

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list

Submit a screenshot.

A computer screen shot of a computer screen

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2

**Generate SSH Keys**

Run:

ssh

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keygen

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Copy the public key:

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Add this key to your GitHub account under

**Settings → SSH and GPG keys**

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**Test Connection**

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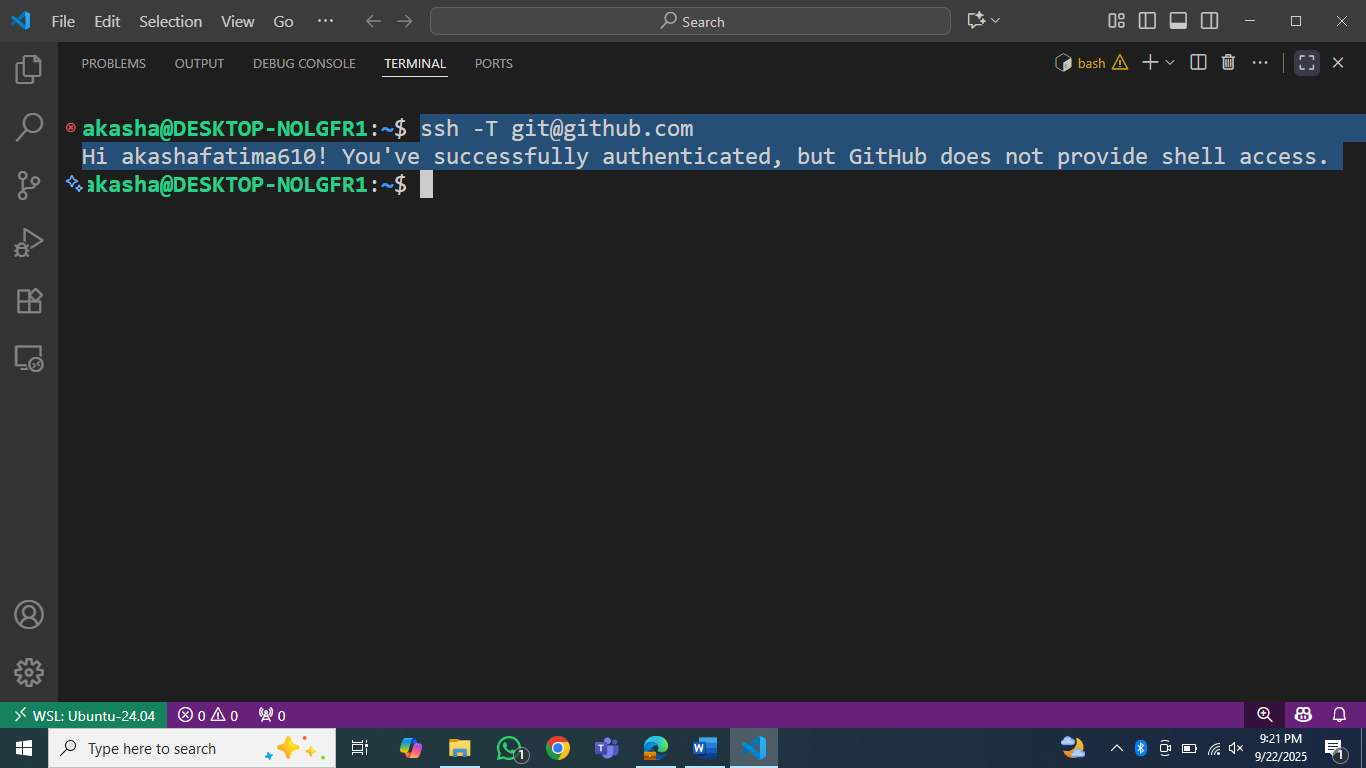
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Submit a screenshot showing successful authentication.



# Part C: C Programming Environment & Practice

## Step 1: Install Build Tools

Before writing C programs, install the **build-essential** package which contains gcc , g++ , and other tools required for compiling.

Run:

Verify installation by checking the version of

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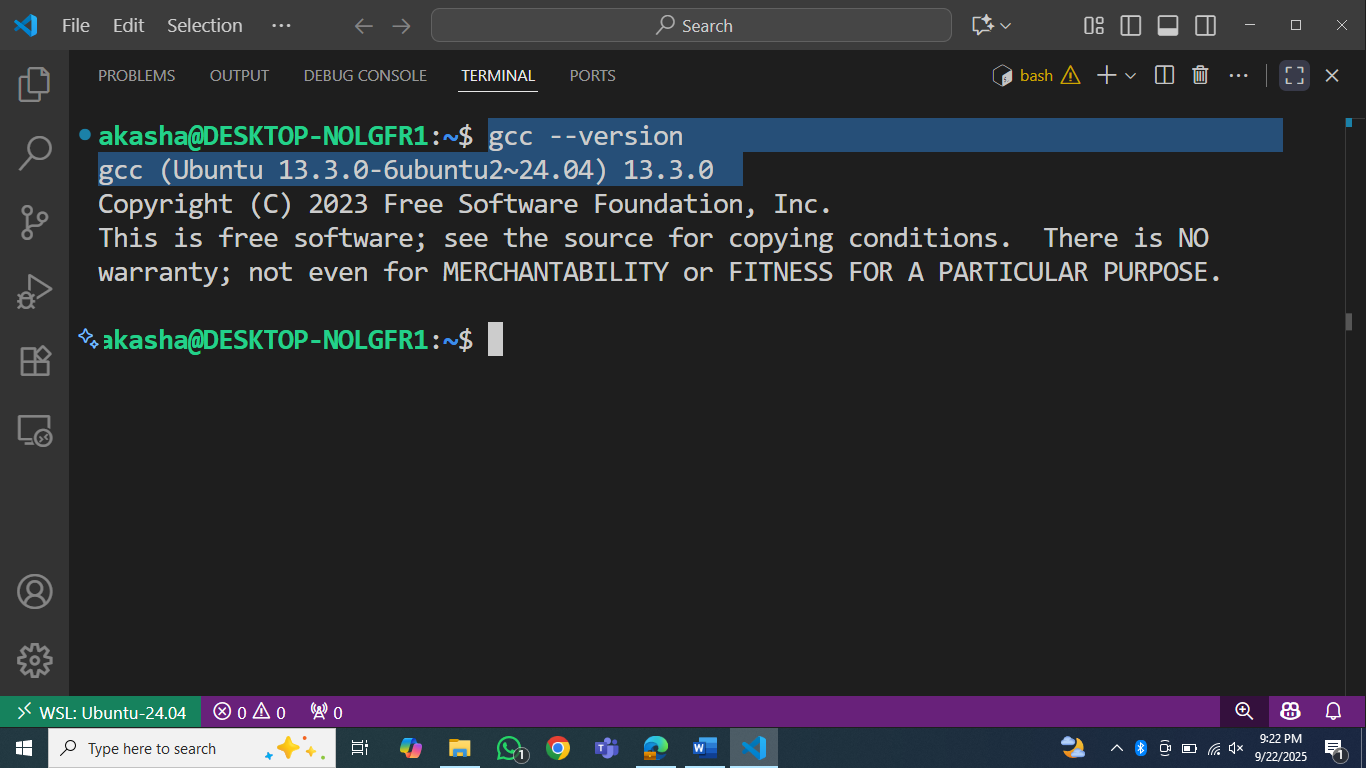
g

cc

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version

Submit a screenshot of successful installation and version output.



## Step 2: How to run a C Program

1. First write a C program in a file with .c extension.
2. Compile the file using gcc filename.c -o filename.out
3. Execute it using ./filename.out

**Breakdown**

This is the GNU Compiler Collection command.

g

cc

It compiles C (and other languages like C++) programs into machine code that can be executed by the computer.

filename.c

This is the source code file you wrote in C.

Example: hello.c contains your C program.

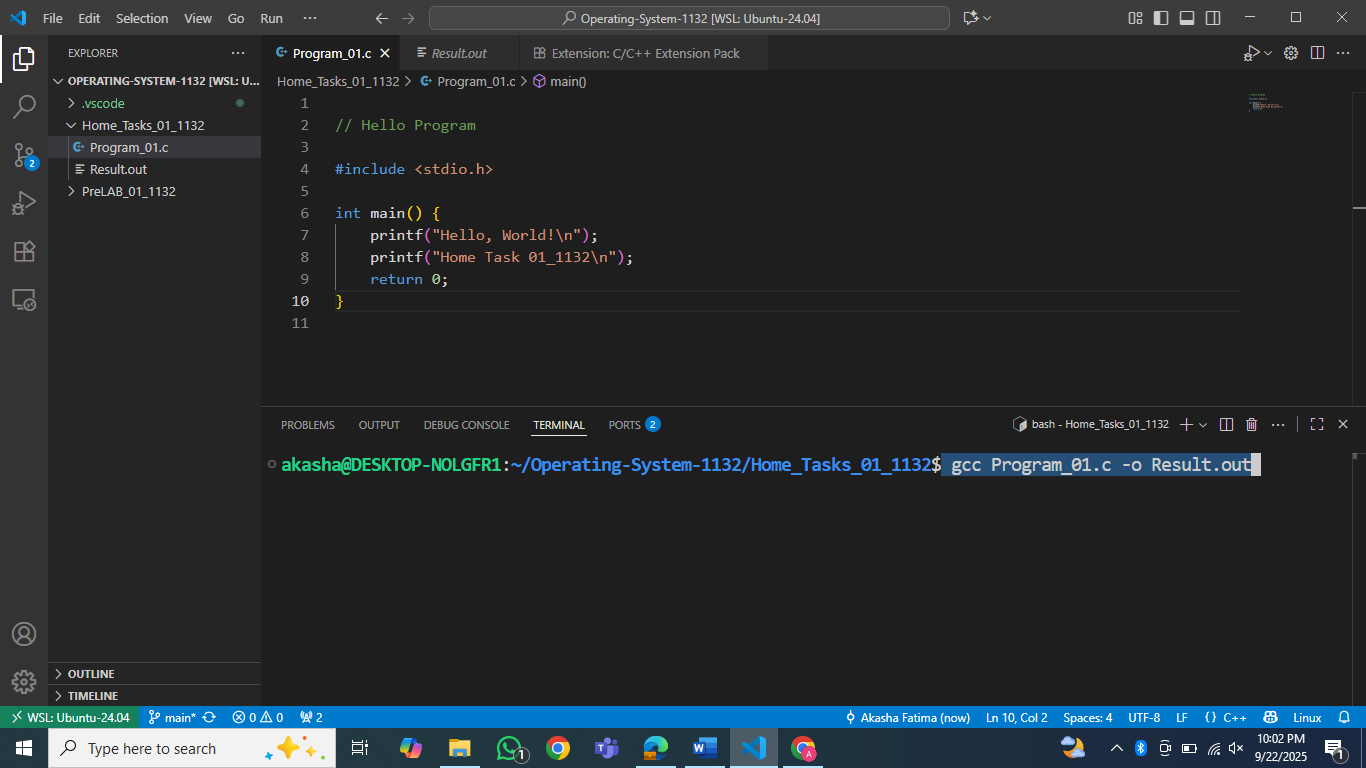
-o filename.out

The option -o means “output.”

By default, gcc creates an executable file named a.out if you don’t specify anything.

With -o, you can choose the name of the output executable.

In this case, the compiled file will be named filename.out.



## Step 3: Write a C Program

Write a simple C program of your choice. It can be a **Hello World** program or any other.

**Submission:**

For the program, submit:

The C source code (

.

c

file).

Screenshot of execution (

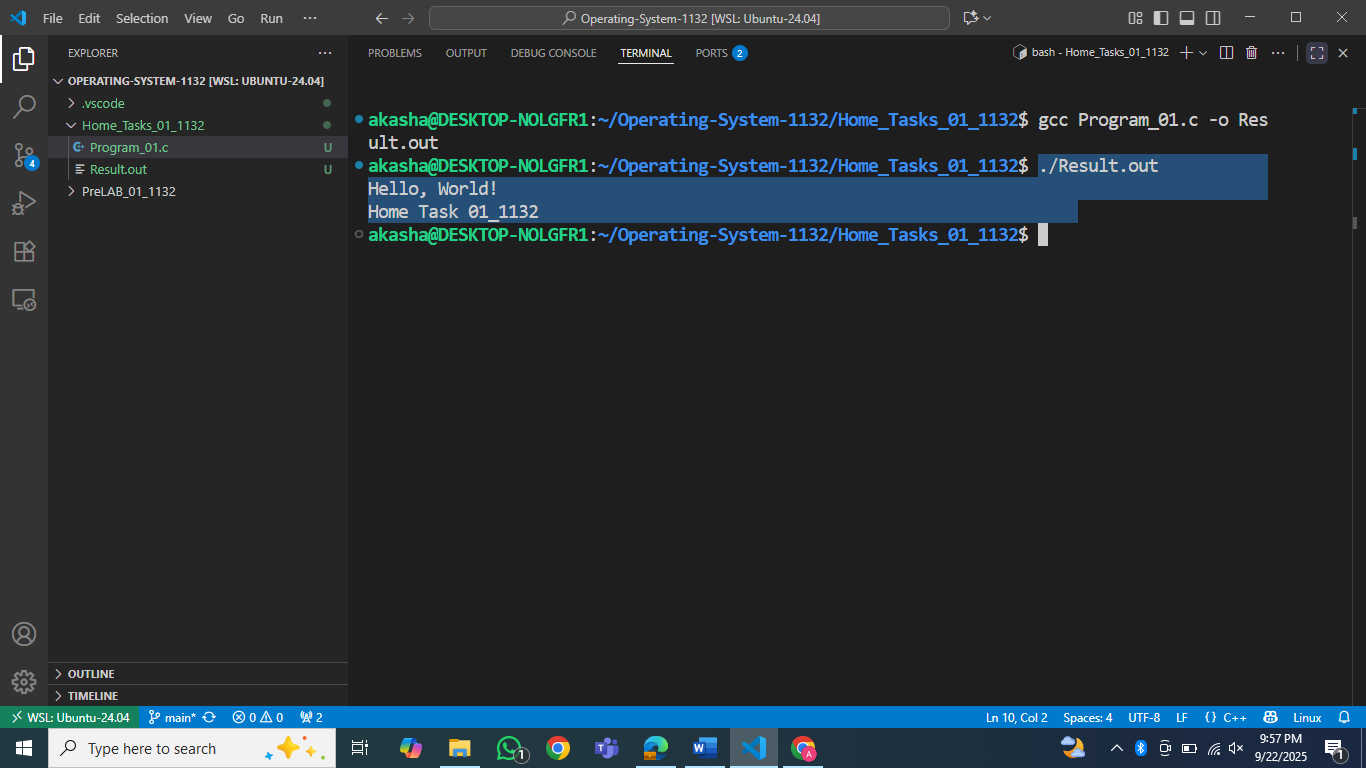
./

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# Deadline

Submit before **12:00 AM, 25 September, 2025**.