

## Experiment no . 2

**Aim:** To understand version control system/ source code management, install git and create a github account

### Theory:

#### Version Control System (VCS) / Source Code Management (SCM)

A **Version Control System** (VCS) is a tool that helps developers manage changes to their codebase over time. It tracks revisions of files, allows developers to collaborate on code without overwriting each other's work, and provides a history of changes. This makes it easier to revert to earlier versions, compare code differences, and maintain an organized workflow.

There are two main types of VCS:

1. **Centralized VCS:** The code is stored in a central repository. Developers check out and check in changes to this single location.
2. **Distributed VCS:** Every developer has a full copy of the code repository, allowing for greater flexibility and offline work. Git, a distributed VCS, is the most popular system used today.

### Git

**Git** is a distributed version control system that allows multiple developers to work on a project simultaneously. It tracks changes to files, creates snapshots of the entire repository at different points in time, and supports branching and merging, making it ideal for collaborative work.

#### Basic Git Concepts:

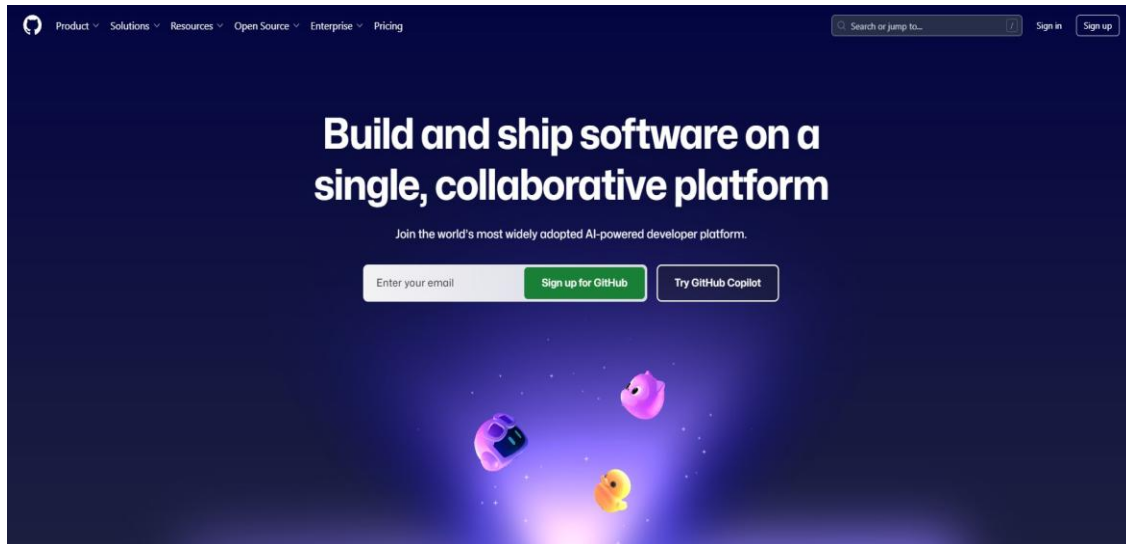
- **Repository:** A project's directory where all code and version history are stored.
- **Commit:** A snapshot of changes made to the repository.
- **Branch:** A separate line of development where changes can be made without affecting the main project.
- **Merge:** Combining changes from different branches back into a main branch.
- **Clone:** A copy of the repository, typically from a remote source like GitHub.
- **Push/Pull:** Sending and receiving updates between local repositories and remote repositories.

### GitHub

**GitHub** is a cloud-based hosting service for Git repositories. It allows developers to store their code online, collaborate with others, and manage issues, pull requests, and documentation. GitHub also provides an interface to interact with Git repositories, making it easier for developers to contribute to projects.

## Steps to create GitHub account:

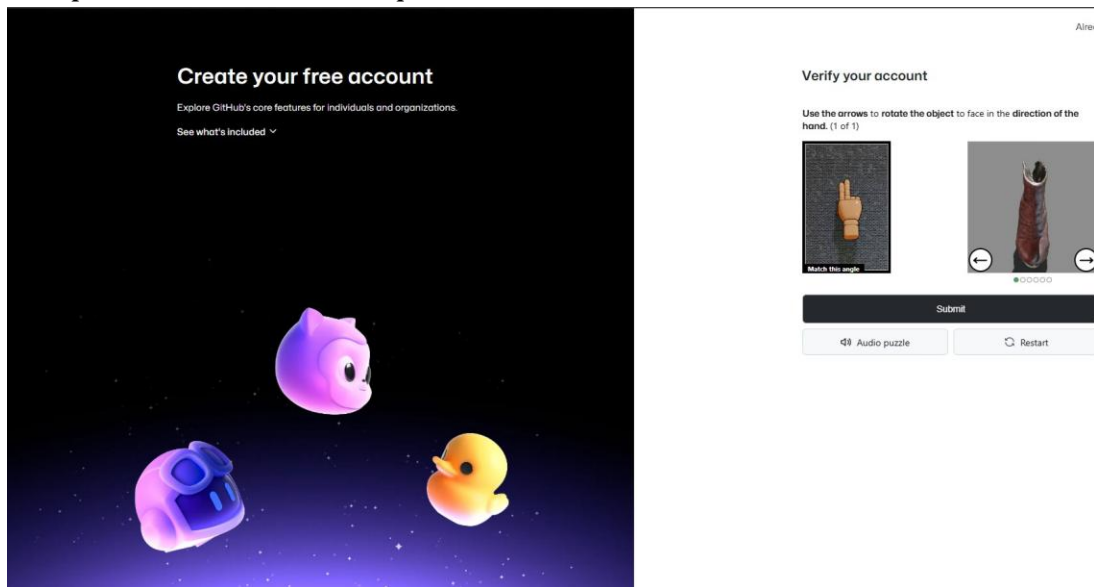
1. Go to [github.com](https://github.com) and click **Sign Up**.



2. Enter your **username**, **email**, and **password**.

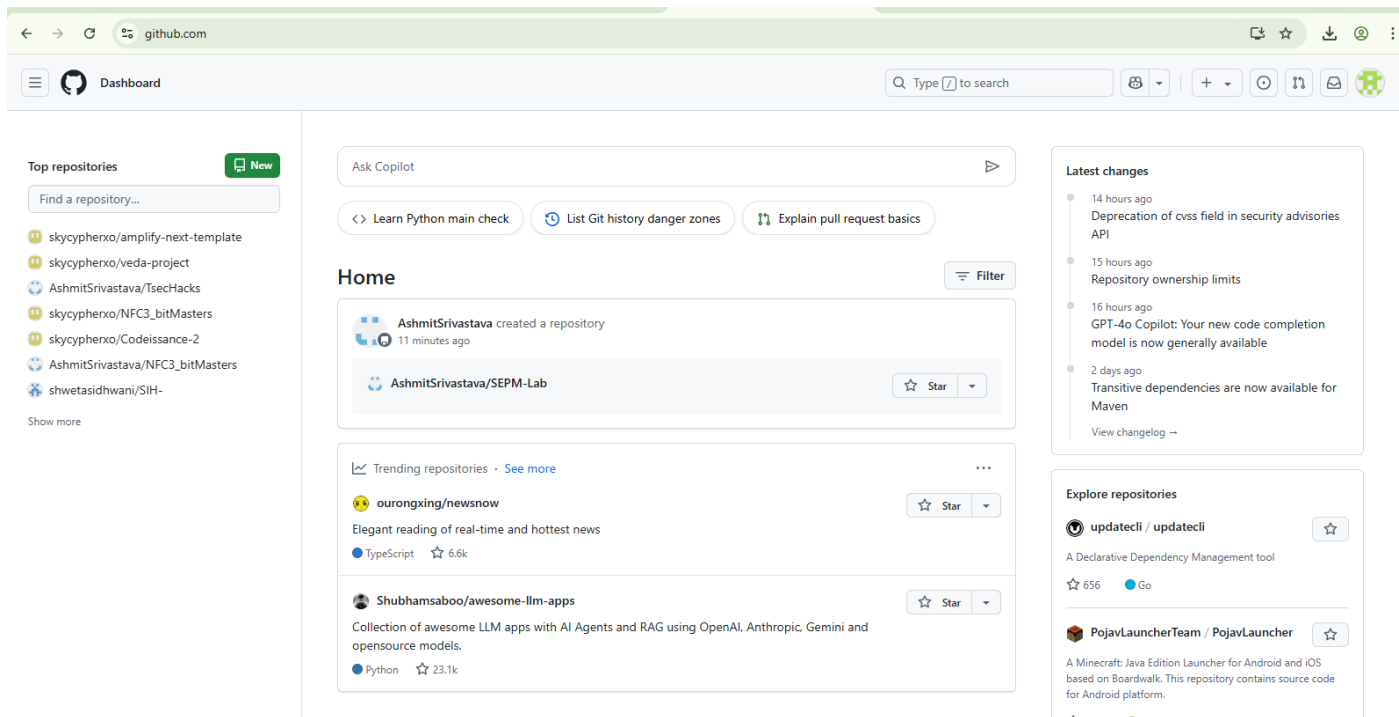
A screenshot of the GitHub account creation page. The left side features a dark blue background with the same three colorful cat-like characters as the homepage. The text 'Create your free account' is prominent, followed by 'Explore GitHub's core features for individuals and organizations.' and a link 'See what's included'. The right side is a white form titled 'Sign up to GitHub'. It contains three input fields: 'Email' (with the value 'megh200419@gmail.com'), 'Password' (with a masked value '\*\*\*\*\*'), and 'Username' (with the value 'megh1904'). Each field has a green checkmark icon on the right. Below the 'Username' field, there's a note: 'Username may only contain alphanumeric characters or single hyphens, and cannot begin or end with a hyphen.' At the bottom of the form is a dark blue button labeled 'Continue >'. Below the button, there's a small disclaimer: 'By creating an account, you agree to the Terms of Service. For more information about GitHub's privacy practices, see the GitHub Privacy Statement. We'll occasionally send you account-related emails.'

### 3. Complete the verification puzzle.



### 4. Verify your email through the link sent to your inbox.

### 5. Log in to your new GitHub account.



### 6. Create your repository

github.com/new

New repository

Q Type to search

+

+

+

+

+

+

### Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Required fields are marked with an asterisk (\*).

Owner \*

Repository name \*

Dhruvt0310

Sepm-113

Sepm-113 is available.

Great repository names are short and memorable. Need inspiration? How about `verbose-octo-happiness` ?

Description (optional)

Sepm lab repo

☒ Public

Anyone on the internet can see this repository. You choose who can commit.

☐ Private

You choose who can see and commit to this repository.

Initialize this repository with:

☒ Add a README file

This is where you can write a long description for your project. [Learn more about READMEs.](#)

Add .gitignore

.gitignore template: None

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

Choose a license

Sepm lab repo

☒ Public

Anyone on the internet can see this repository. You choose who can commit.

☐ Private

You choose who can see and commit to this repository.

Initialize this repository with:

☒ Add a README file

This is where you can write a long description for your project. [Learn more about READMEs.](#)

Add .gitignore

.gitignore template: None

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

Choose a license

License: None

A license tells others what they can and can't do with your code. [Learn more about licenses.](#)

This will set `main` as the default branch. Change the default name in your [settings](#).

You are creating a public repository in your personal account.

Create repository

© 2025 GitHub, Inc. Terms Privacy Security Status Docs Contact Manage cookies Do not share my personal information

Dhruvt0310 / Sepm-113

Q Type to search

+

+

+

+

+

+

<> Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

Sepm-113

Public

Pin

Unwatch 1

Fork 0

Star 0

main 1 Branch 0 Tags

Go to file

Add file

<> Code

About

Dhruvt0310 Initial commit

81abfd - now

1 Commit

README.md

Initial commit

now

README

Sepm-113

Sepm lab repo

Readme

Activity

0 stars

1 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

© 2025 GitHub, Inc. Terms Privacy Security Status Docs Contact Manage cookies Do not share my personal information

**Conclusion:** Hence we have successfully learnt version control system/ source code management, install git and create a github account