

Assignment No: I

Subject: Systems Design Lab

Topic: Introduction to Git and GitHub

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SYSTEM DESIGN LAB

ASSIGNMENT T-1

Q:1: Git as Version Control System

- A version control system is a software that tracks changes to a file or set of files over time so that you can recall specific versions later.
- It is a collection of S/W tools that help a team to manage changes in a source code.
- It uses a special kind of database to keep track of every modification to code.
- It allows you to work together with other programmers.
- Developers can use the previous versions of the code with an older version to fix the mistakes.

→ Its benefits are.

- (a) complete change history of the file
 - (b) Simultaneously working
 - (c) Branching & merging
 - (d) Traceability
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Q:2: What is GitHub?

- GitHub is a code hosting platform for collaboration and version control.
- lets you and others work together on projects.
- It consists of the following:
 - (i) Repositories
 - (ii) Branches
 - (iii) Commits
 - (iv) Pull Requests
 - (v) Git (the version control software GitHub is built on)

(i) REPOSITORY: → Used to store a development project.

- Can contain folders and any type of files.
- Should include a licence and a README file about the project.
- Used to store ideas, or any resources that you want to share.

(ii) BRANCH: → Used to work with different versions of a repository at the same time.

- By default, each repository has a master branch.
- When changes are ready, they can be merged into the master branch. If you make changes to the master branch while working on a new branch, these updates can be pulled in.

COMMITTS: In GitHub changes are called COMMITTS. Each commit has a description why a change was made.

(iv) PULL REQUESTS: → It is the heart of the GitHub.

→ With a pull request, you are proposing that your changes should be merged (pulled in) with the master.

Q:3: What is working directory and staging area?

→ The working area is where files that are not handled by git. Also called as "untracked files".

→ Staging area is files that are going to be a part of the next commit, which git lets git know what changes in

file are going to occur for the
next commit.
