

Expt. Title Set up a Github account & send an email message to friend telling to your friend about the account.
Class FYMCA Batch B1 Performed on _____
Roll No. 11 Expt. No. 1 Submitted on _____
Remarks _____ Returned on _____

What is Github?

Github is a Git repository hosting service. Github is an american company. Github also facilitates with many of its features such as access control and collaboration. It provides a web-based graphical interface.

It hosts source code of your project the form of different programming language. It keeps track of the various changes made by programmers. It offers both distributed version control & source code management (SCM) functionality of Git.

Features of Github ⇒

Github is a place where programmers & designers work together. They collaborate, contribute & fixbugs together.

Some of its significant features are as follows:

- 1) Collaboration
- 2) Integrated issue & bug tracking
- 3) Graphical representation of branches
- 4) Git repositories hosting
- 5) project management
- 6) Team management
- 7) Code hosting
- 8) Track & design tasks
- 9) Conversations
- 10) Wikisc

Complete for :
Algorithm
Flow Chart
Programme Listing
Results

Benefits of Github →

The key benefits of Github are as follows:

- 1) It is easy to contribute to open-source projects via Github.
- 2) It helps to create an excellent document.
- 3) You can attract recruiter by showing of your work. If you have a profile on Github, you will have a higher chance of being recruited.
- 4) It allows your work to get out there in front of the public.
- 5) You can track changes in your code across versions.

* Advantages of Github →

- 1) Similar to other online report services, github comes with a big benefit to have the content inputted in such a format without having to know another system.
- 2) Flavoured markdown is another benefit of using Github.
- 3) Collaboration is another benefit of using Github. For people who do not remain in the same physical location.
- 4) You do not need to connect with your company's VPN as it is easier to dump with the collaboration feature of Github.

* Disadvantages of Github →

- 1) Github does not come with private repositories. This is one of the disadvantages.
- 2) Some employers & clients can only allow code on their private secure internal git as far as the matter of policy is concerned.
- 3) Pricing is another potential drawback of Github.
- 4) Some of the features & online repositories happen to be locked behind a saas paywall.

Name Bhangale Dhanashri Nitin
Expt. Title Clone the repository at <https://github.com/>
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Introduction of Git →

Git is an open-source distributed version control system. It is designed to handle minor to major projects with high speed & efficiency. It is developed to coordinate the work among the developers. The version control allows us to track & work together with our team members at the same workspace.

Git is Foundation of many services like Github & Gittab, but we can use git without any other Git services. Git can be used privately & publically.

* Features of Git →

1) Open Source →

Git is an open-source tool. It is released under the GPL (General Public License) license.

2) Scalable

3) Distributed

4) Security

5) Speed

6) Supports non-linear development

7) Branching & Merging

8) Data Assurance

9) Staging Area

10) Maintain the clean history.

* Benefits of Git →

1) Saves Times →

Git is lightning fast technology. Each commands takes only a few seconds to execute so we can save a lot of time.

Incomplete for :

- 1) Algorithm
- 2) Flow Chart
- 3) Programme Listing
- 4) Results
- 5) Comments

as compared to login to a Github account & find out its features.

2) offline working →

One of the most important benefits of Git is that it supports offline working. If we are facing internet connectivity issues, it will not affect our work.

3) Undo Mistakes →

One additional benefit of Git is we can undo mistakes. Sometimes the undo can be a savior option for us.

* What does Git do?

- Manage projects with Repositories.
- clone a project to work on a local copy.
- control & track changes with staging & committing.
- pull the latest version of a project to a local copy.
- push local updates to the main project.

* Commands →

1) Version → This command is used to list the version history for the current branch.

syntax → `$ git --version`

2) Help → This command is used to display all the information about git.

syntax → `$ git --help`

3) clone → Git allows making a copy of only particular branch from a repository. You can make a directory for the individual branch by using the git clone command. It creates a copy of an existing Git repository. Cloning is the most common way for developers to obtain a working copy of a central repository.

syntax → `$ git clone <Repository url>`

Name Bhangale Dhanashri Nitin
Expt. Title Use git add to add that file to the repository
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1) git clone →

clone command is used to create a copy of an existing git repository & cloning is the most common way for developers to obtain a working copy of a central repository
syntax → `$ git clone <Repository Url>`

2) git add →

The git add command adds a change in the working directory to the staging area. It tells git that you want to include updates to a particular file in the next commit. However, git add doesn't really affect the repository in any significant way changes are not actually recorded until you run git commit.

syntax → `$ git add [filename].txt`

3) git commit →

The git commit command is one of the core primary function of Git. Prior use of the git add command is required to select the changes that will be stage for the next commit. Then git commit is used to create a 'snapshot' of staged changes along a time of a git projects history.

syntax → `git commit -m "message"`

whereas, the commit command performs a commit, if the -m "message" adds a message in that file.

Incomplete for :

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Name Bhangale Dhanashri Nitin

Expt. Title Use git push to send your change to the primary repository to see if your change has been pushed.

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Remarks _____ Returned on _____

1) git clone →

clone command is used to create a copy of an existing git repository. & cloning is the most common way for developers to obtain a working copy of a central repository.

Syntax ⇒ `$ git clone <"Repository Url">`

2) git add →

the git command adds a change in the working directory to the staging area. It tells git that you want to include update to a particular file in the next commit. However, git add doesn't really affect the repository in any significant way changes are not actually recorded until you run git commit.

Syntax ⇒ `$ git add [Filename].txt`

3) git commit →

the git commit command is one of the core primary function of git. prior use of the git add command is required to select the changes. that will be staged for the next commit. Then git commit is used to create a "snapshot" of staged changes along a timeline of a git project history.

Syntax ⇒ `git commit -m "message"`

whereas, the commit command performs `commit -m "message"` adds a message.

Incomplete for :

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4) Push ⇒

The push term refers to upload local repository content to a remote repository. Pushing is an act of transfer commits from your local repository to a remote repository.

Makeover, we can say the push updates the remote repository with local. Every time you push into the repository, it is updated with some interesting changes that you made. If we do not specify the location of a repository, then it will push to default location at origin master.

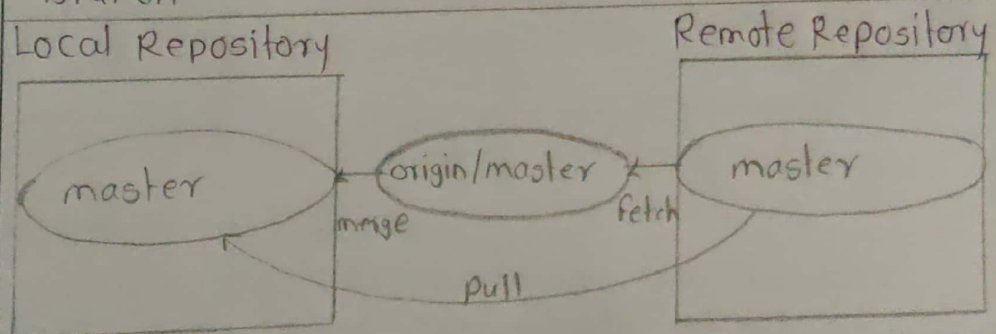
The "git push" command is used to push into the repository.

syntax ⇒ `$ git push <Remotename> <LocalBranchName>:
<RemoteBranchName>`

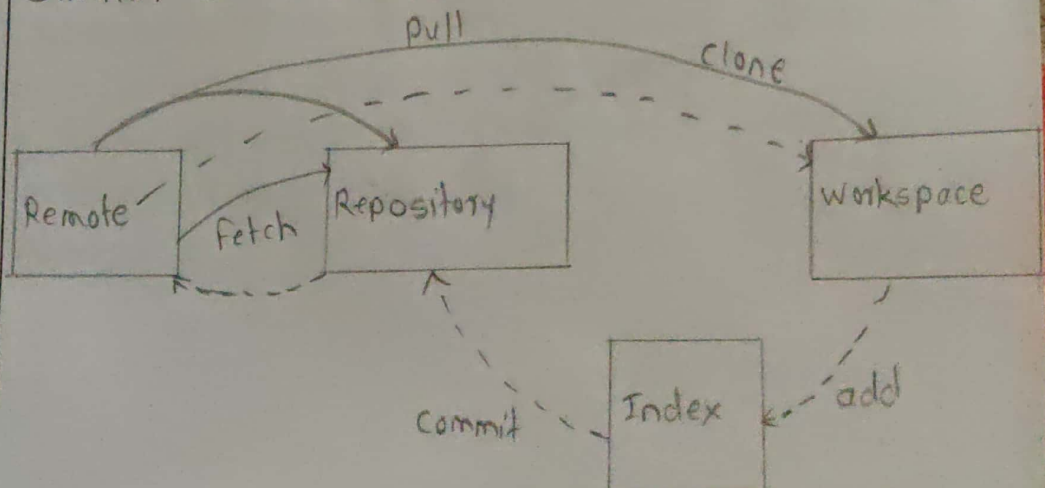
Name Bhangale Dhanashri Nitin
Expt. Title Use git pull to get your part and change in your repository. & only that you have the new file.
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Introduction of Git Pull

The term pull is used to receive data from Github. It fetches & merges changes from the remote server to your working directory. The git pull command is used to pull a repository. pull request is a process for a developer to notify team members that they have completed a feature. once their feature branch is ready, the developer files a pull request via their remote server account. pull request announces all the team members that they need to review the code & merge it into the master branch.



*The below figure demonstrates how pull acts between different locations & how it is similar or dissimilar to other related commands



Incomplete for :

- 1) Algorithm
- 2) Flow Chart
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* The "git pull" command →

The pull command is used to access the changes (commits) from a remote repository to the local repository. It updates the local branches with the remote tracking branches. Remote tracking - branches & branches that have been set up to push & pull from the remote repository. Generally, it is a collection of the fetch & merges command. First, it fetches the changes from remote & combined them with the local repository.

Syntax of git pull commands →

\$ git pull <option> [<repository URL><refspec>...] .

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Name Bhangale Dhanashri Nitin
Expt. Title Use git log or git log less to see a list of changes to the repository
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1) git clone command \Rightarrow

The git clone command line ability which is used to make a local copy to remote repository. It access the repository through remote URL

syntax \Rightarrow \$ git clone <repository URL>

2) git log command \Rightarrow

The advantage of a version control system is that it records changes. These records allow us to retrieve the data like commits figuring at bugs, updates. But, all of this history will be useless if we cannot navigate it. At this point we need to use git log command.

* Basic git log \Rightarrow

Git log command is one of the most ~~toe~~ usual commands of git. It is the most useful commands for git. Every time you need to check the history you have to use the git log command. The basic git log command will display the most recent commits & the status of the head.

syntax \Rightarrow \$ git log.

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Name Bhangale Dhanashri Nilin
Expt. Title Demonstrate the use of git diff command
Class EYMA Batch B1 Performed on _____
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1) git clone command.

The git clone command -line utility which is used to make a local copy to remote repository. It access the repository through remote URL.

Syntax \rightarrow `$ git clone <repository url>`

2) git diff command \rightarrow

Git diff is a command line utility. It is a multiuse Git command. When is executed, it runs a diff function on git data source. These data source can be files branches, commits & more. It is used to show changes betⁿ commits commit & working tree, etc.

Diff command is used to in git to track the difference betⁿ the changes made on file. Since, Git is a version control system, tracking changes are something very vital to it. Diff command are something very vital to it, Diff command takes two inputs & reflects the differences between them.
Syntax \rightarrow `$ git diff`