# Assignment 4

Shivendu        Shreya        Ashutosh

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## 1 Introduction

Application: Git like VCS
Repository URL: https://bitbucket.org/KShivendu/vcs/src/master/

## 2 git log

### 2.1 Description

git log shows the current HEAD and its ancestry. That is, it prints the commit HEAD points to, then its parent, its parent, and so on. It traverses back through the repository's ancestry, by recursively looking up each commit's parent.

### 2.2 Output

```
commit 1a31e2a7fd3d2bc90009989cdbfbb0be8a5b0faa
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 23:22:04 2019 +0530

    Finalised the code

commit 8b73f96308433d09f998ae44e5541f1b6d848ca9
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 23:01:11 2019 +0530

    Added final functions for pushing to the server

commit d76ffa7fe0544191e575f80f88e7b6b58875c442
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 23:00:31 2019 +0530

    Added code to find different types of objects
```

```
commit b3219708ea65c89e43be5b035e2d6ac1a4364931
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 22:59:51 2019 +0530

    Added functions to read trees

commit 66bcb2d684e64a086f9ea19830782df26049a6a9
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 22:58:06 2019 +0530

    Added basic functions for HTTP request

commit c869861cd3858d99bcf2b75fbdb78ee4b9a992f3
Merge: f832e74 4685215
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 22:52:56 2019 +0530

    Handled conflicts

commit f832e7448ae64b631b34acea5c5981e307545482
Merge: 8fe32ed 4e509a4
Author: Kumar Shivendu <kshivendu1@gmail.com>
Date:   Sun Oct 13 17:07:52 2019 +0000

    Merged in commitFeature (pull request #1)

    CommitFeature

commit 8fe32ed78039d7c63441af2b9c0e0fb50fd34ebe
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 22:33:32 2019 +0530

    Added Functions for handling git index

commit 9ade7733a2a46306fee7269b6becad003629f700
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 22:29:17 2019 +0530

    Function to read git index

commit 736bc372f22f0160e2eee103d60c221ac68c44ac
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 22:28:07 2019 +0530

    Added IndexEntry Collection for git index
```

```
commit d53121abb9dea5d1c88526947d7cf26f3d3f27d1
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 22:25:19 2019 +0530

    Added function for adjusting error in add

commit 4e509a46464bff10fa7545532cac2867fb15b0bf
Author: Ashutosh Sahu <uniqueashutosh1@gmail.com>
Date:   Sun Oct 13 21:06:17 2019 +0530

    Changed Indentation

commit 5574e803cc62bf92505cf7f1b19d4c56ca7c83fa
Author: Ashutosh Sahu <uniqueashutosh1@gmail.com>
Date:   Sun Oct 13 21:04:23 2019 +0530

    Added commit

commit 6c4f857b3bcf17b913c19ba4d68ed0583b85288e
Author: Ashutosh Sahu <uniqueashutosh1@gmail.com>
Date:   Sun Oct 13 19:51:12 2019 +0530

    Added get_local_master_hash

commit e215067e928647d0b9acc6c48fdd7cb580fdd521
Author: Ashutosh Sahu <uniqueashutosh1@gmail.com>
Date:   Sun Oct 13 19:39:46 2019 +0530

    Added write_tree

commit ef04ecd5918eb9f2769916d996be660cf16fdfbb
Author: Ashutosh Sahu <uniqueashutosh1@gmail.com>
Date:   Sun Oct 13 19:33:07 2019 +0530

    Added index entries and read_index function

commit 50362de99ee1e3e1082566f429ab45c1ef5857d6
Author: Ashutosh Sahu <uniqueashutosh1@gmail.com>
Date:   Sun Oct 13 18:08:46 2019 +0530

    added read_tree function

commit 1820b5e8a7e97d2a0590aa6f320badb208805ba9
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:   Sun Oct 13 06:05:34 2019 +0530
```

Updating README file

commit 468521525f911b024896309f83c366c8719c737c
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:    Sun Oct 13 03:55:20 2019 +0530

        add_added

commit d2afd3b733c7808513d862f64b72dfa5c5079042
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:    Sun Oct 13 03:54:25 2019 +0530

        write_index_added

commit 3a9fcc64a9f54e767945561dc1e7752975303ebd
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:    Sun Oct 13 03:53:22 2019 +0530

        diff_added

commit 4860cb98ed00ac71f1d1cfd850d7c4302d6fb60d
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:    Sun Oct 13 03:52:16 2019 +0530

        status_added

commit 32c76bbbc207787c41ff71812485b30ba4d757cc
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:    Sun Oct 13 03:51:34 2019 +0530

        get_status_added

commit 4d79e2cdf95e2e38c69ba1606c9dfcbc98e0149d
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:    Sun Oct 13 03:50:21 2019 +0530

        ls_files_added

commit f52fcbf35154191c067c93c0801f771f36413386
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:    Sun Oct 13 03:49:12 2019 +0530

        read_index_added

commit 97627f863cc7b394d1a7440f22a4e9bfef20d317
Author: Shreyagundu <gundus@iitbhilai.ac.in>

```
Date:   Sun Oct 13 03:45:49 2019 +0530

    read_file_added

commit c3d1a8dc7f72cd81fa4d7cff40e376e4bf9054e4
Author: Shreyagundu <gundus@iitbhilai.ac.in>
Date:   Sun Oct 13 03:37:55 2019 +0530

    cat_file_added

commit 8548242687be6525ae94430be4e4cb06ec1668da
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 14:57:45 2019 +0530

    Added hash-object in README

commit 0c79e78c04cab02f244b17c8693cb8e611461298
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 12:54:35 2019 +0530

    Added function to read object of given SHA1 value

commit 83acff05e97ff30c393f5bda18f5808dcd95a82b
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 12:53:50 2019 +0530

    Added function to find object with given atleast 2 SHA1 values

commit cfc831c71beebe679e3f8bdb6939c2357952d4bb
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 12:51:15 2019 +0530

    Added hash_object function

commit cdf36c73027a6a59596b66671597604d29c103f1
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 12:47:48 2019 +0530

    added README file

commit 1814d977a6297656f5bbe4af2fb8beac1c139774
Author: KShivendu <shivendu@iitbhilai.ac.in>
Date:   Sun Oct 13 12:47:02 2019 +0530

    Added Init feature
```

# 3 git reflog

## 3.1 Description

git reflog doesn't traverse HEAD's ancestry at all. The reflog is an ordered list of the commits that HEAD has pointed to: it's undo history for your repo. The reflog isn't part of the repo itself (it's stored separately to the commits themselves) and isn't included in pushes, fetches or clones; it's purely local.

## 3.2 Output

```
1a31e2a HEAD@{0}: commit: Finalised the code
8b73f96 HEAD@{1}: merge serverFeatures: Fast-forward
c869861 HEAD@{2}: checkout: moving from serverFeatures to master
8b73f96 HEAD@{3}: commit: Added final functions for pushing to the server
d76ffa7 HEAD@{4}: commit: Added code to find different types of objects
b321970 HEAD@{5}: commit: Added functions to read trees
66bcb2d HEAD@{6}: commit (amend): Added basic functions for HTTP request
187baf3 HEAD@{7}: commit: Added functions for HTTP request
c869861 HEAD@{8}: checkout: moving from master to serverFeatures
c869861 HEAD@{9}: commit (merge): Handled conflicts
f832e74 HEAD@{10}: checkout: moving from master to master
f832e74 HEAD@{11}: pull: Fast-forward
8fe32ed HEAD@{12}: commit: Added Functions for handling git index
9ade773 HEAD@{13}: commit: Function to read git index
736bc37 HEAD@{14}: commit: Added IndexEntry Collection for git index
d53121a HEAD@{15}: commit: Added function for adjusting error in add
1820b5e HEAD@{16}: pull: Fast-forward
8548242 HEAD@{17}: merge hashObject: Fast-forward
cdf36c7 HEAD@{18}: checkout: moving from hashObject to master
8548242 HEAD@{19}: commit: Added hash-object in README
0c79e78 HEAD@{20}: checkout: moving from master to hashObject
cdf36c7 HEAD@{21}: checkout: moving from hashObject to master
0c79e78 HEAD@{22}: checkout: moving from master to hashObject
cdf36c7 HEAD@{23}: checkout: moving from hashObject to master
0c79e78 HEAD@{24}: commit: Added function to read object of given SHA1 value
83acff0 HEAD@{25}: commit: Added function to find object with given atleast 2 SHA1 values
cfc831c HEAD@{26}: commit: Added hash_object function
cdf36c7 HEAD@{27}: checkout: moving from master to hashObject
cdf36c7 HEAD@{28}: commit: added README file
1814d97 HEAD@{29}: commit (initial): Added Init feature
```