PARSHVANATH CHARITABLE TRUST'S
A. P. SHAH INSTITUTE OF TECHNOLOGY
Department of Information Technology
(NBA Accredited)

Department of Information Technology

Academic Year: 2024-25

Semester: V

Class / Branch: TEIT/Div C

Subject: DevOps Lab

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Name of Student:Shravani Sawant

Student ID:22104008

Date of Performance:29/07/2024

Date of Submission: 29/07/2024

Experiment No. 3

Aim: To understand and perform version control system / source code management using Git.

PART 1: Branching and Merging


```
fatal: Not a valid object name: 'master'.
root@Ubuntu:/home/sujata/workspace# cd hello_test/
root@Ubuntu:/home/sujata/workspace/hello_test# git branch feature
```



```
root@Ubuntu:/home/sujata/workspace/hello_test# git branch
  feature
* main
```



```
root@Ubuntu:/home/sujata/workspace/hello_test# git checkout feature
Switched to branch 'feature'
```



```
root@Ubuntu:/home/sujata/workspace/hello_test# git branch
* feature
  main
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# echo " This text was ad
ded originally while in the feature branch" >> hello.py
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git status
On branch feature
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory
)
        modified:   hello.py

no changes added to commit (use "git add" and/or "git commit -a")
```
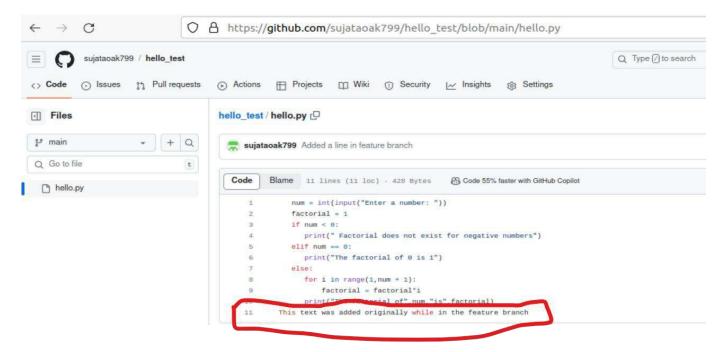
```
root@Ubuntu:/home/sujata/workspace/hello_test# git add hello.py
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git status
On branch feature
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.py
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git commit -m "Added a
line in feature branch"
[feature 67139aa] Added a line in feature branch
 1 file changed, 1 insertion(+)
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git log
commit 67139aab359af707a18e430d0dc6287e487a1d2e (HEAD -> feature)
Author: sujataoak799 <sujataoak2021@gmail.com>
Date:   Sun Jul 21 15:24:57 2024 +0530

    Added a line in feature branch

commit f1bdb1cc96f8e879529d5f765476a15ee490a5c6 (main)
Author: sujataoak799 <sujataoak2021@gmail.com>
Date:   Tue Jul 16 10:48:54 2024 +0530

    Revert "Initial commit"
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git branch
  feature
* main
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git merge feature
Updating f1bdb1c..67139aa
Fast-forward
 hello.py | 1 +
 1 file changed, 1 insertion(+)
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git push -u origin main
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 596 bytes | 596.00 KiB/s, done.
Total 5 (delta 1), reused 0 (delta 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/sujataoak799/hello_test
   e19123e..67139aa  main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
```

← → C   ○ 🔒 https://github.com/sujataoak799/hello_test/blob/main/hello.py

≡ ⬡ sujataoak799 / hello_test   🔍 Type 🔍 to search

<> Code   ⊙ Issues   ⊓ Pull requests   ⊙ Actions   ⊞ Projects   ⊞ Wiki   ⊙ Security   ⤳ Insights   ⚙ Settings

⊡ Files   hello_test / hello.py 🔲

⅏ main   ▾   + 🔍   🟢 sujataoak799 Added a line in feature branch

🔍 Go to file   t   Code   Blame   11 lines (11 loc) · 428 Bytes   ⊞ Code 55% faster with GitHub Copilot

📄 hello.py   1   num = int(input("Enter a number: "))
                                      2   factorial = 1
                                      3   if num < 0:
                                      4   print(" Factorial does not exist for negative numbers")
                                      5   elif num == 0:
                                      6   print("The factorial of 0 is 1")
                                      7   else:
                                      8   for i in range(1,num + 1):
                                      9   factorial = factorial*i
                                                print("The factorial of" num "is" factorial)
                                      11   This text was added originally while in the feature branch

```
root@Ubuntu:/home/sujata/workspace/hello_test# git branch
  feature
* main
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git branch -d feature
Deleted branch feature (was 67139aa).
```

```
root@Ubuntu:/home/sujata/workspace/hello_test# git branch
* main
```

OUTPUT:

```
root@apsit:/home/apsit/Shravani/hello_test_29072024# git branch feature
root@apsit:/home/apsit/Shravani/hello_test_29072024# git branch
  feature
* main
root@apsit:/home/apsit/Shravani/hello_test_29072024# git checkout feature
Switched to branch 'feature'
root@apsit:/home/apsit/Shravani/hello_test_29072024# git branch
* feature
  main
root@apsit:/home/apsit/Shravani/hello_test_29072024# echo "This text was added originally while in the feature branch" >> hello.py
root@apsit:/home/apsit/Shravani/hello_test_29072024# cat hello.py
print"Hello World"
This text was added originally while in the feature branch
```

```
root@apsit:/home/apsit/Shravani/hello_test_29072024# git status
On branch feature
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   hello.py

no changes added to commit (use "git add" and/or "git commit -a")
root@apsit:/home/apsit/Shravani/hello_test_29072024# git add hello.py
root@apsit:/home/apsit/Shravani/hello_test_29072024# git status
On branch feature
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.py
```

```
root@apsit:/home/apsit/Shravani/hello_test_29072024# git commit -m "Added a line in feature branch"
[feature 68a5f5d] Added a line in feature branch
 1 file changed, 1 insertion(+)
root@apsit:/home/apsit/Shravani/hello_test_29072024# git log
commit 68a5f5d2265edc7922b56999f8a257bffea29229 (HEAD -> feature)
Author: SHRAVANI0164 <sawantshanu01@gmail.com>
Date:   Mon Jul 29 10:19:27 2024 +0530

    Added a line in feature branch

commit dbc00fbfbcf7e74150e317605cba22977876a4cb (origin/main, origin/HEAD, main)
Author: SHRAVANI0164 <sawantshanu01@gmail.com>
Date:   Mon Jul 29 09:44:38 2024 +0530

    First Python File

commit f2b83cdf88638382c302e707b5d285061718d4df
Author: SHRAVANI0164 <142137559+SHRAVANI0164@users.noreply.github.com>
Date:   Mon Jul 29 09:30:44 2024 +0530

    Initial commit
```

```
root@apsit:/home/apsit/Shravani/hello_test_29072024# git branch
* feature
  main
root@apsit:/home/apsit/Shravani/hello_test_29072024# git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
root@apsit:/home/apsit/Shravani/hello_test_29072024# git branch
  feature
* main
root@apsit:/home/apsit/Shravani/hello_test_29072024# git merge feature
Updating dbc00fb..68a5f5d
Fast-forward
 hello.py | 1 +
 1 file changed, 1 insertion(+)
root@apsit:/home/apsit/Shravani/hello_test_29072024# cat hello.py
print"Hello World"
This text was added originally while in the feature branch
root@apsit:/home/apsit/Shravani/hello_test_29072024#
```

```
root@apsit:/home/apsit/Shravani/hello_test_29072024# git remote set-url origin https://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@github.com/SHRAVANI0164/hello_test_29072024
root@apsit:/home/apsit/Shravani/hello_test_29072024# git push -u origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 369 bytes | 369.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/SHRAVANI0164/hello_test_29072024
   dbc00fb..68a5f5d  main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
```

```
root@apsit:/home/apsit/Shravani/hello_test_29072024# git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
root@apsit:/home/apsit/Shravani/hello_test_29072024# git branch -d feature
Deleted branch feature (was 68a5f5d).
root@apsit:/home/apsit/Shravani/hello_test_29072024# git branch
* main
root@apsit:/home/apsit/Shravani/hello_test_29072024#
```

Conclusion:

In this experiment, we understood the use case of Version Control System in branching and merging, its benefits in real time scenario which provides a application of branching the changes when people are in working in a collaborating environment. Different commands were used for the same such as checkout, branch and merge for displaying the changes between the initial and latter texts.