

GIT - ASSIGNMENT

1. Create and initialize local git repository having simple python calculator program

```
mkdir python-calculator
cd python-calculator
git init
```

```
$ git init
Reinitialized existing Git repository in C:/Users/Administrator/Documents/Git - Assignemnet/python-calculator/.git/
```

2. Add all the files into the staging area and commit the first draft code

```
git add .
git commit -m "Commit first draft of the Python calculator program"
```

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git add .

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git commit -m "Commit first draft of the Python calculator program"
[master (root-commit) 1103f04] Commit first draft of the Python calculator program
1 file changed, 40 insertions(+)
create mode 100644 calculator.py.txt
```

3. Update the python calculator code adding the function to perform percentage operation

```
def percentage(x, y):
    return (x * y) / 100
```

4. Add the updated code and create another commit

```
git add 'calculator.py.txt'
git commit -m "Add percentage operation to the Python calculator program"
```

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git add 'calculator.py.txt'

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git commit -m "Add percentage operation to the Python calculator program"
[master 4ebd3d7] Add percentage operation to the Python calculator program
1 file changed, 7 insertions(+), 1 deletion(-)
```

5. Get the log of commits and show the updated files

```
git log
```

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git log
commit 4ebd3d7feec1c6827f31ed4fe69f5e3beb83252d (HEAD -> master)
Author: shzmohmd <muhammadshaskt@gmail.com>
Date: Tue Jun 18 09:49:00 2024 +0530

    Add percentage operation to the Python calculator program

commit 1103f04e4ba06a6fb1d7410f169d1ab099a81a27
Author: shzmohmd <muhammadshaskt@gmail.com>
Date: Tue Jun 18 09:29:55 2024 +0530

    Commit first draft of the Python calculator program
```

6. Use hard reset to make repository code to initial commit

```
git reset --hard 1103f04e4ba06a6fb1d7410f169d1ab099a81a27
```

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git reset --hard 1103f04e4ba06a6fb1d7410f169d1ab099a81a27
HEAD is now at 1103f04 Commit first draft of the Python calculator program
```

7. See the hard commit changed the source code with python calculator application without percentage operation

git show

```
$ git show
commit 1103f04e4ba06a6fb1d7410f169d1ab099a81a27 (HEAD -> master)
Author: shzmohmd <muhammadshaskt@gmail.com>
Date: Tue Jun 18 09:29:55 2024 +0530

    Commit first draft of the Python calculator program

diff --git a/calculator.py.txt b/calculator.py.txt
new file mode 100644
index 0000000..cb33f2a
--- /dev/null
+++ b/calculator.py.txt
@@ -0,0 +1,40 @@
+def add(x, y):
+    return x + y
+
+def subtract(x, y):
+    return x - y
+
+def multiply(x, y):
```

8. Create a new branch with the name newfeatures

git branch newfeatures

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git branch newfeatures

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git branch
* master
  newfeatures
```

9. Add the new program advance calculator with few advance calculator function and commit it in newfeatures branch

git checkout newfeatures

git add 'advance_calculator.py'

git commit -m "Add advanced calculator with additional functions to newfeatures branch"

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git checkout newfeatures
Switched to branch 'newfeatures'

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (newfeatures)
$ git branch
  master
* newfeatures

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (newfeatures)
$ git add advanced_calculator.py
fatal: pathspec 'advanced_calculator.py' did not match any files

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (newfeatures)
$ git add advanced_calculator.py.txt

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (newfeatures)
$ git commit -m "Add advanced calculator with additional functions to newfeatures branch"
[newfeatures c0337c6] Add advanced calculator with additional functions to newfeatures branch
1 file changed, 63 insertions(+)
create mode 100644 advanced_calculator.py.txt
```

10. Merge the branch with master branch

git checkout master
git merge newfeatures

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (newfeatures)
$ git checkout master
Switched to branch 'master'

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git merge newfeatures
Updating 1103f04..c0337c6
Fast-forward
 advanced_calculator.py.txt | 63 ++++++++++++++++++++++++++++++++++++++
 1 file changed, 63 insertions(+)
 create mode 100644 advanced_calculator.py.txt

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git log
commit c0337c6f97fa658baf7736c0f50513b5449a0843 (HEAD -> master, newfeatures)
Author: shzmohmd <muhammadshakt@gmail.com>
Date: Tue Jun 18 10:31:01 2024 +0530

    Add advanced calculator with additional functions to newfeatures branch

commit 1103f04e4ba06a6fb1d7410f169d1ab099a81a27
Author: shzmohmd <muhammadshakt@gmail.com>
```

11. Remove the branch newfeatures

git branch -d newfeatures

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git branch
* master
  newFeatures

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git branch -d newFeatures
Deleted branch newFeatures (was c0337c6).

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git branch
* master
```

12. Commit the code in the master branch

git add .
git commit -m "Merging neafeature with master branch"

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git add .

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git commit -m "new commit"
On branch master
nothing to commit, working tree clean
```

13. Create a remote link with your github newly created repository with name calculatorApp

git remote add origin <https://github.com/shzmohmd/CalculatorApp.git>

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git remote add origin https://github.com/shzmohmd/CalculatorApp.git
```

14. Push the changes into your github repository

git push -u origin master

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/python-calculator (master)
$ git push -u origin master
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 6 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 1.12 KiB | 1.12 MiB/s, done.
Total 6 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/shzmohmd/CalculatorApp.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
```

15. Create new folder in your harddrive and use pull command to get your calculatorApp from github repository

git clone <https://github.com/shzmohmd/CalculatorApp.git>

```
$ git clone https://github.com/shzmohmd/CalculatorApp.git
Cloning into 'CalculatorApp'...
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 6 (delta 1), reused 6 (delta 1), pack-reused 0
Receiving objects: 100% (6/6), done.
Resolving deltas: 100% (1/1), done.

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/calculator-app
$ ls
CalculatorApp/

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/calculator-app
$ cd CalculatorApp

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/calculator-app/Calculator
$ ls
advanced_calculator.py.txt  calculator.py.txt
```

16. Make few changes into the code and push it back to the github repository

git add advanced_calculator.py

git commit -m "Update advanced calculator with new line"

git push origin master

```
Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/calculator-app/CalculatorApp (master)
$ git add .

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/calculator-app/CalculatorApp (master)
$ git commit -m "Update advanced calculator with new line"
[master 3ee3815] Update advanced calculator with new line
 1 file changed, 3 insertions(+)

Administrator@46a211adf4f554d MINGW64 ~/Documents/Git - Assignemnet/calculator-app/CalculatorApp (master)
$ git push origin master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 6 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 359 bytes | 359.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/shzmohmd/CalculatorApp.git
 c0337c6..3ee3815  master -> master
```