Day-7

Date: 14-08-2024

Source Code Management with Git

Difference between GitLab and GitHub:

GitLab

GitLab is a repository hosting manager tool developed by GitLab Inc and used for the software development process.

GitHub

GitHub is a repository hosting service tool that features collaboration and access control. It is a platform for programmers to fix bugs together and host open-source projects.

Assignement-1:

Initialize a new git repository in a directory of your choice. And a simple text file to the repository and make the first commit.

```
rps@rps-virtual-machine:~$ cd pavani1
rps@rps-virtual-machine:~/pavani1$ ls
rps@rps-virtual-machine:~/pavani1$ ls -l
total 0
rps@rps-virtual-machine:~/pavani1$ cd .git
rps@rps-virtual-machine:~/pavani1/.git$ ls
branches  config  description  HEAD  hooks  info  objects  refs
rps@rps-virtual-machine:~/pavani1/.git$ cd .
rps@rps-virtual-machine:~/pavani1/.git$ cd ..
rps@rps-virtual-machine:~/pavani1$ ls
rps@rps-virtual-machine:~/pavani1$ git log
fatal: your current branch 'master' does not have any commits yet
rps@rps-virtual-machine:~/pavani1$ git status
On branch master

No commits yet

nothing to commit (create/copy files and use "git add" to track)
rps@rps-virtual-machine:~/pavani1$ cd ..
rps@rps-virtual-machine:~$ mkdir pavanik
mkdir: cannot create directory ‘pavanik’: File exists
rps@rps-virtual-machine:~$ cd pavanik
rps@rps-virtual-machine:~/pavanik$ git init
Reinitialized existing Git repository in /home/rps/pavanik/.git/
rps@rps-virtual-machine:~/pavanik$ vi samplefile.txt
rps@rps-virtual-machine:~/pavanik$ vi samplefile.txt
rps@rps-virtual-machine:~/pavanik$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
```

```
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        samplefile.txt

nothing added to commit but untracked files present (use "git add" to track)
rps@rps-virtual-machine:~/pavanik$ git add samplefile.txt
rps@rps-virtual-machine:~/pavanik$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   samplefile.txt

rps@rps-virtual-machine:~/pavanik$ git commit -m "first commit"
[master 8677e3f] first commit
 1 file changed, 424 insertions(+)
 create mode 100644 samplefile.txt
rps@rps-virtual-machine:~/pavanik$ git log
commit 8677e3f798d48c9483808a0fb316bbf195c69ffe (HEAD -> master)
Author: github_pavanikonduru <kondurupavani2421@gmail.com>
Date:   Wed Aug 14 14:27:52 2024 +0530

    first commit

commit 494d40eccfc3eb6825fd2db6ab74a4f290efc20b
Author: github_pavanikonduru <kondurupavani2421@gmail.com>
Date:   Wed Aug 14 14:12:54 2024 +0530

    simple text file a.txt
rps@rps-virtual-machine:~/pavanik$
```

Assignment-2:

Branch creation and switching create a new branch named ‘c_feature’ and switch to it . Make changes in the ‘c_feature’ branch and commit them.

Creating a Branch:

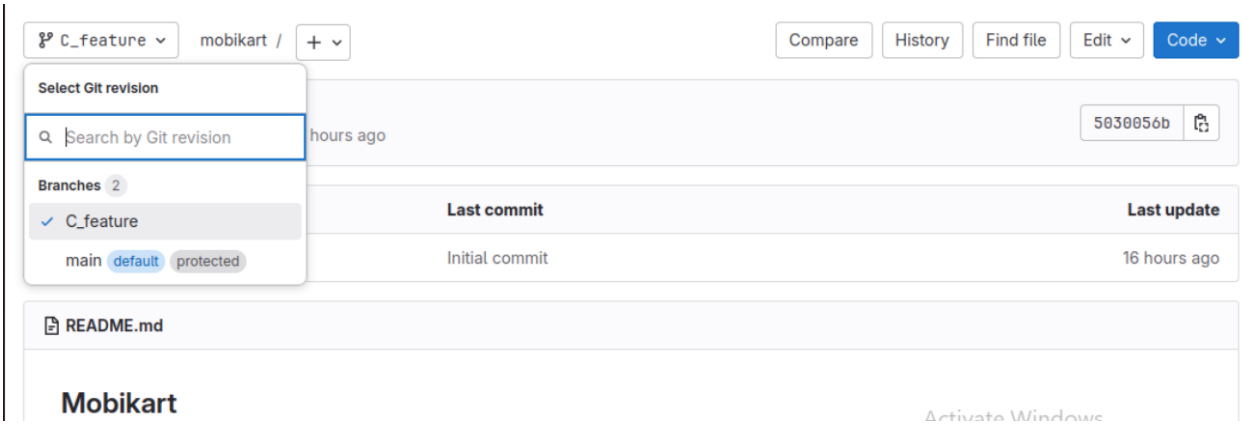


Fig-1: Creating a Branch in GitLab

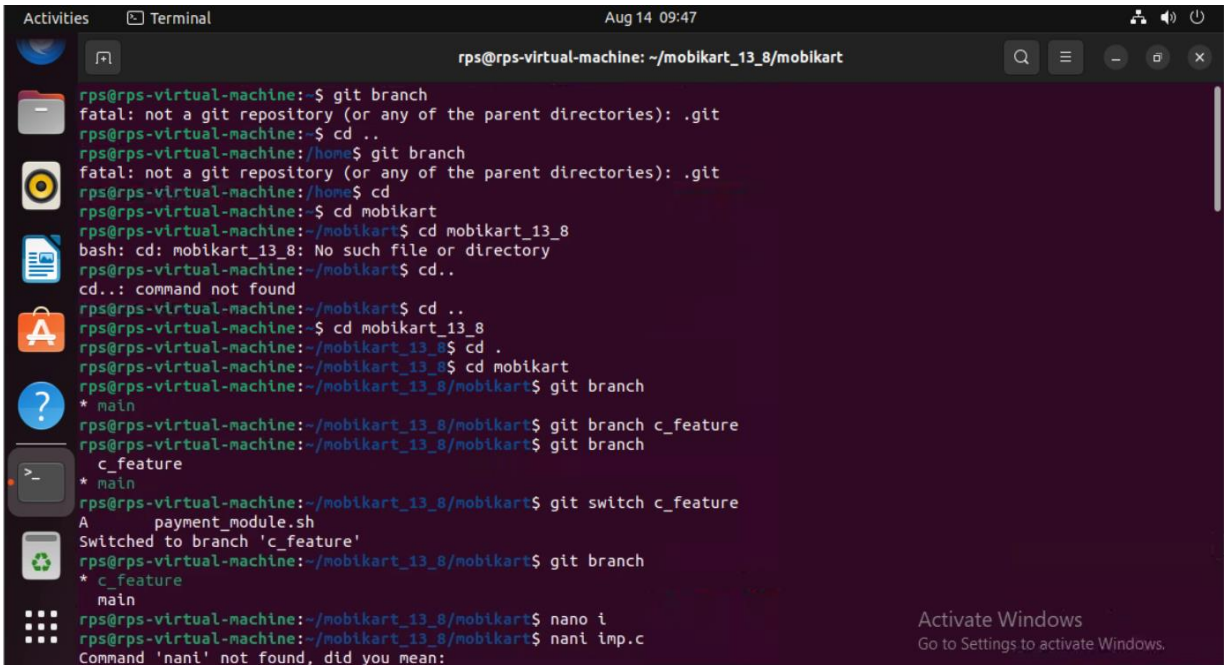


Fig-2: Creating, switch and merge a Branch

Assignment-3:

Create a branch dev and push the file into dev branch and merge the file from ‘dev‘ branch into main branch ensuring that the issue is resolved.

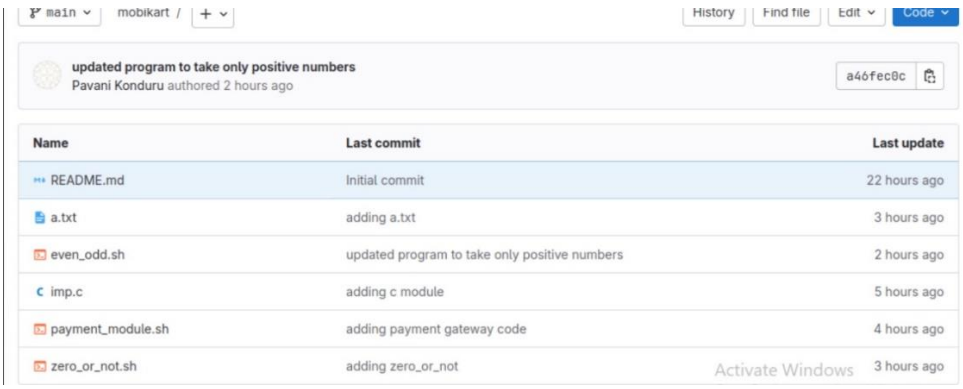
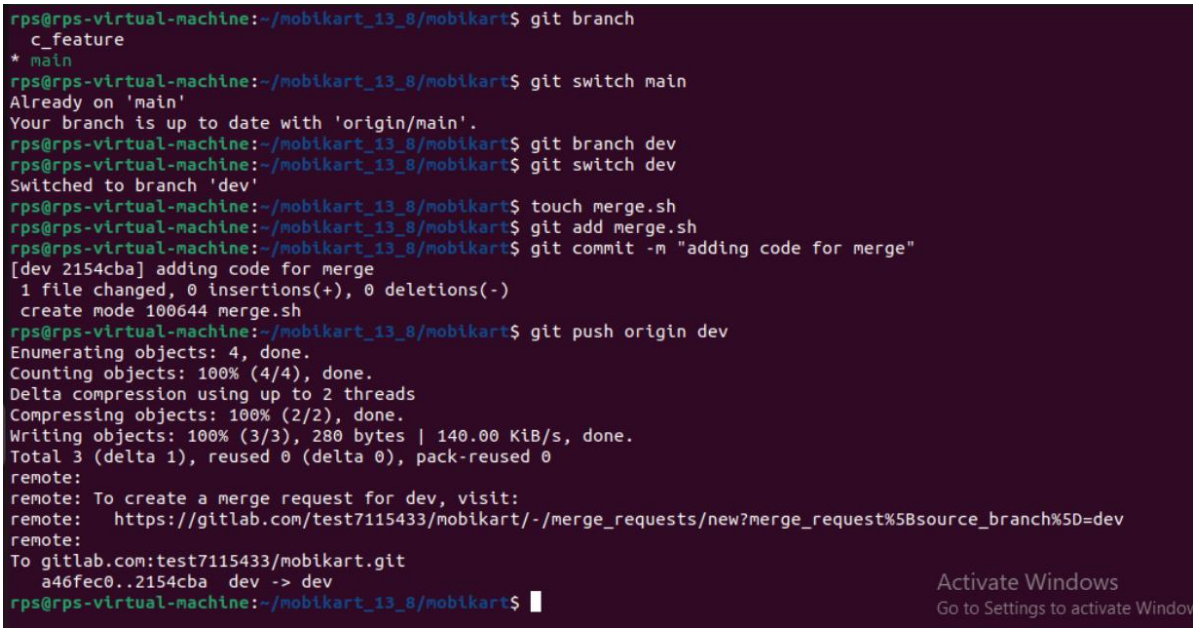


Fig-1: Before Merge in Main Branch



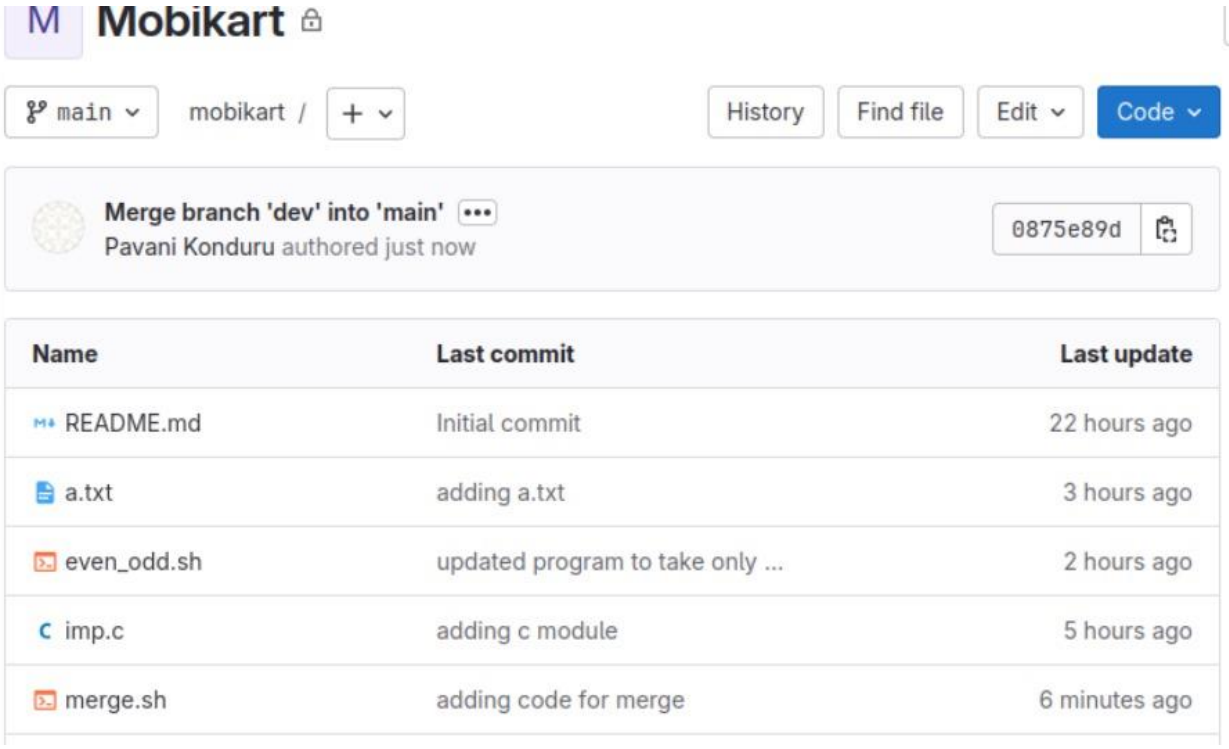


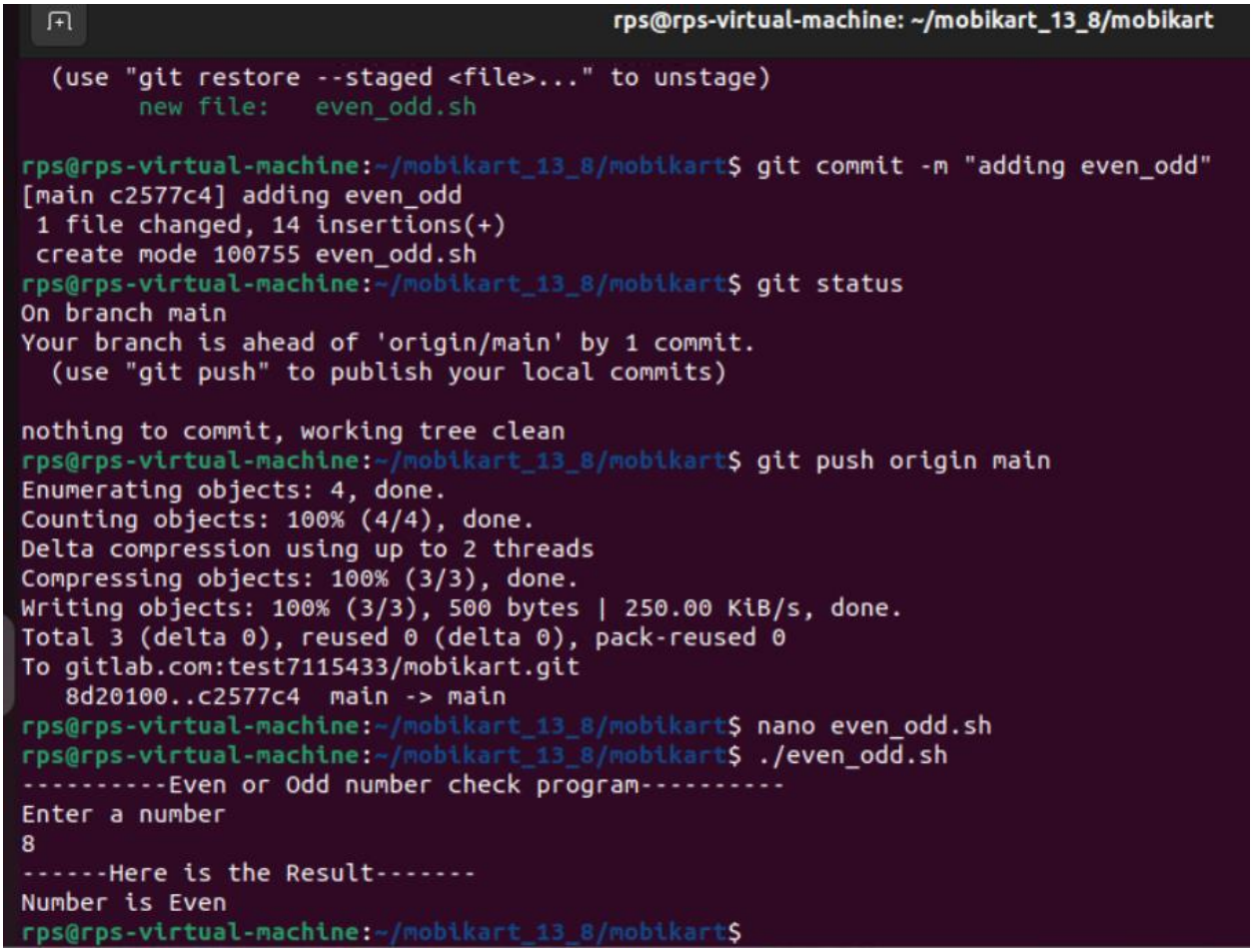
Fig-2: After Merge a file Merge.sh from dev to main branch

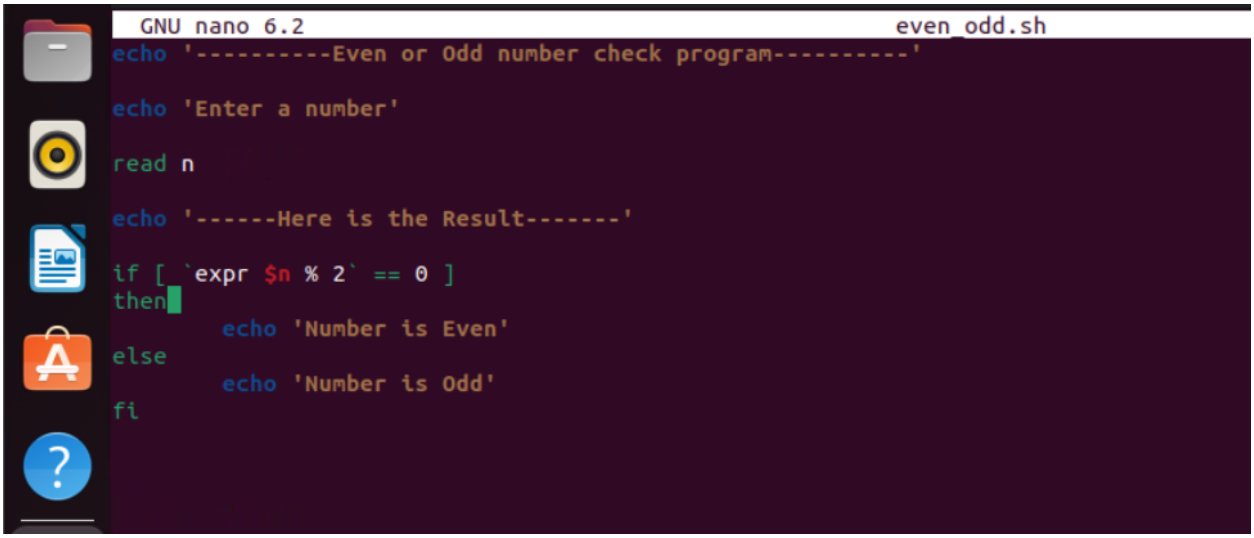
Assignment-4:

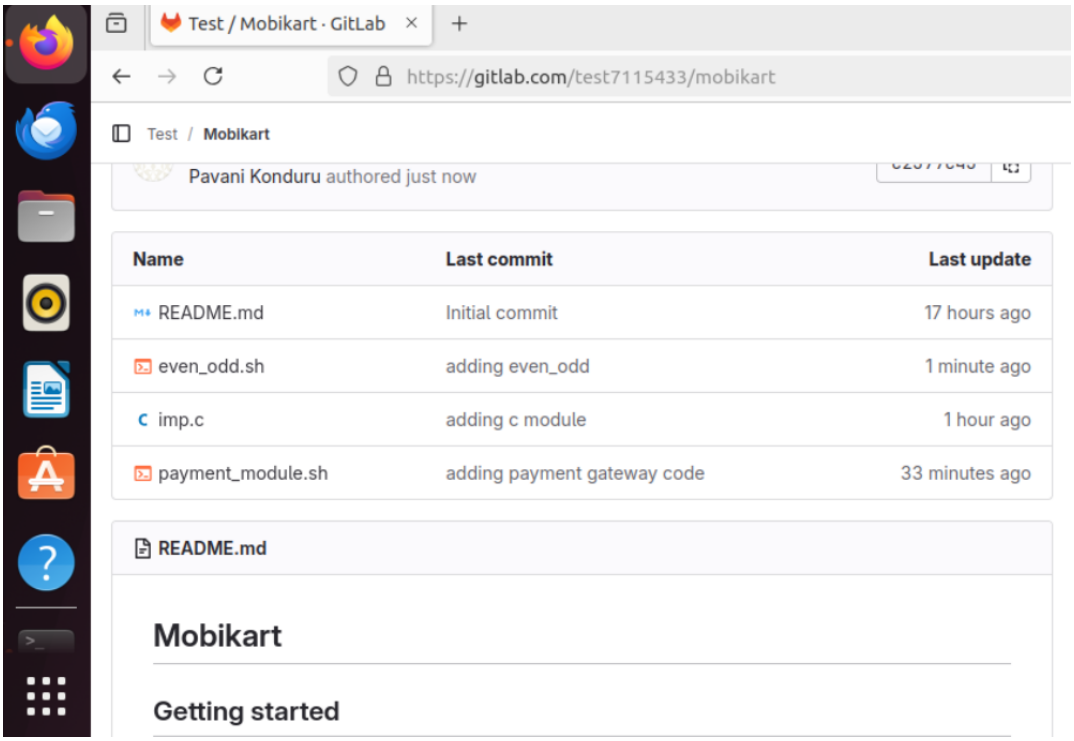
Write a script that reads numbers from the user to check whether the number is zero or not and also print whether the number is even or odd.

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ nano even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ chmod +x even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git branch
  c_feature
* main
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ls
even_odd.sh  imp.c  payment_module.sh  README.md
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ls -l
total 20
-rwxrwxr-x 1 rps rps   60 Aug 14 10:48 even_odd.sh
-rw-rw-r-- 1 rps rps   29 Aug 14 09:45 imp.c
-rw-rw-r-- 1 rps rps   76 Aug 14 10:21 payment_module.sh
-rw-rw-r-- 1 rps rps 6172 Aug 13 21:39 README.md
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./even_odd.sh
----------Even or Odd number check program----------
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ nano even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./even_odd.sh
----------Even or Odd number check program----------
Enter a number
7
------Here is the Result-------
Number is Odd
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git add even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   even_odd.sh
```


rps@rps-virtual-machine: ~/mobikart_13_8/mobikart
(use "git restore --staged <file>..." to unstage)
new file: even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git commit -m "adding even_odd"
[main c2577c4] adding even_odd
1 file changed, 14 insertions(+)
create mode 100755 even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
(use "git push" to publish your local commits)
nothing to commit, working tree clean
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 2 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 500 bytes | 250.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To gitlab.com:test7115433/mobikart.git
8d20100..c2577c4 main -> main
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ nano even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./even_odd.sh
----------Even or Odd number check program----------
Enter a number
8
------Here is the Result-------
Number is Even
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$


GNU nano 6.2
even_odd.sh
echo '----------Even or Odd number check program----------'
echo 'Enter a number'
read n
echo '------Here is the Result-------'
if [`expr $n % 2` == 0]
then
echo 'Number is Even'
else
echo 'Number is Odd'
fi



Assignment-5:

Write a script that reads numbers from the user to check whether the number is zero or not.

```
 GNU nano 6.2                                          zero_or_not.sh
echo '--------Zero or not check Program-----'

echo 'Enter a Number'

read n

echo '---Here is the Result---'
if [ ` expr $n ` -eq 0  ]
then
        echo 'Number is Zero'
else
        echo 'Number is not a zero'
fi
```

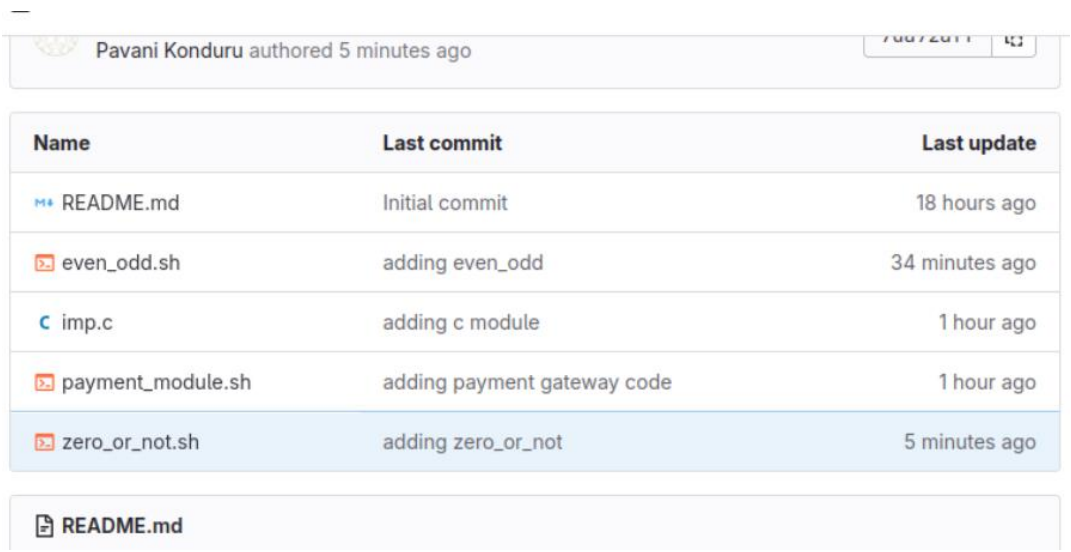
```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ nano zero_or_not.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ chmod +x zero_or_not.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git branch
  c_feature
* main
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ls
even_odd.sh  imp.c  payment_module.sh  README.md  zero_or_not.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ls -l
total 24
-rwxrwxr-x 1 rps rps  217 Aug 14 10:59 even_odd.sh
-rw-rw-r-- 1 rps rps   29 Aug 14 09:45 imp.c
-rw-rw-r-- 1 rps rps   76 Aug 14 10:21 payment_module.sh
-rw-rw-r-- 1 rps rps 6172 Aug 13 21:39 README.md
-rwxrwxr-x 1 rps rps   46 Aug 14 11:10 zero_or_not.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./zero_or_not.sh
--------Zero or not check Program-----
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ nano zero_or_not.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./zero_or_not.sh
--------Zero or not check Program-----
Enter a NUmber
0
Number is Zero
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ nano zero_or_not.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./zero_or_not.sh
--------Zero or not check Program-----
Enter a Number
0
---Here is the Result---
Number is Zero
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./zero_or_not.sh
--------Zero or not check Program-----
Enter a Number
9
---Here is the Result---
Number is not a zero
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./zero_or_not.sh
--------Zero or not check Program-----
Enter a Number
899
---Here is the Result---
Number is not a zero
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ./zero_or_not.sh
--------Zero or not check Program-----
Enter a Number
000
---Here is the Result---
Number is Zero
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git add zero_or_not.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   zero_or_not.sh

rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git commit -m "adding zero_or_not"
[main 7da72af] adding zero_or_not
 1 file changed, 13 insertions(+)
 create mode 100755 zero_or_not.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 2 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 421 bytes | 210.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
To gitlab.com:test7115433/mobikart.git
   c2577c4..7da72af  main -> main
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$
```



Resolving complex Merge conflicts:

Assignment-6:

```
rps@rps-virtual-machine:~$ cd
rps@rps-virtual-machine:~$ cd mobikart_13_8
rps@rps-virtual-machine:~/mobikart_13_8$ mobikart
mobikart: command not found
rps@rps-virtual-machine:~/mobikart_13_8$ cd mobikart
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat even_odd.sh
echo '----------Even or Odd number check program----------'

echo 'Enter a number'

read n

echo '------Here is the Result-------'

if [ `expr $n % 2` == 0 ]
then
        echo 'Number is Even'
else
        echo 'Number is Odd'
fi
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ nano even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git pull
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 287 bytes | 143.00 KiB/s, done.
From gitlab.com:test7115433/mobikart
   d0d879a..edf48f1  main       -> origin/main
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git pull
hint: You have divergent branches and need to specify how to reconcile them.
hint: You can do so by running one of the following commands sometime before
hint: your next pull:
hint:
hint:   git config pull.rebase false  # merge (the default strategy)
hint:   git config pull.rebase true   # rebase
hint:   git config pull.ff only       # fast-forward only
hint:
hint: You can replace "git config" with "git config --global" to set a default
hint: preference for all repositories. You can also pass --rebase, --no-rebase,
hint: or --ff-only on the command line to override the configured default per
hint: invocation.
fatal: Need to specify how to reconcile divergent branches.
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git config pull.rebase false
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git pull
error: Your local changes to the following files would be overwritten by merge:
        even_odd.sh
Please commit your changes or stash them before you merge.
Aborting
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git stash
Saved working directory and index state WIP on main: 2ca8409 adding a.txt
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat even_odd.sh
echo '----------Even or Odd number check program----------'

echo 'Enter a number'

read n
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git stash apply
On branch main
Your branch and 'origin/main' have diverged,
and have 1 and 2 different commits each, respectively.
  (use "git pull" to merge the remote branch into yours)

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:   even_odd.sh

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .a.tx.swp

no changes added to commit (use "git add" and/or "git commit -a")
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat even_odd.sh
echo '----------Even or Odd number check program-1---------'

echo 'Enter a positive number'

read n

echo '------Here is the Result-------'

if [ `expr $n % 2` == 0 ]
then
        echo 'Number is Even'
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git stash
Saved working directory and index state WIP on main: 2ca8409 adding a.txt
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat even_odd.sh
echo '----------Even or Odd number check program----------'

echo 'Enter a number'

read n

echo '------Here is the Result-------'

if [ `expr $n % 2` == 0 ]
then
        echo 'Number is Even'
else
        echo 'Number is Odd'
fi
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git pul
git: 'pul' is not a git command. See 'git --help'.

The most similar commands are
        pull
        push
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git pull
Merge made by the 'ort' strategy.
 even_odd.sh | 4 ++--
 1 file changed, 2 insertions(+), 2 deletions(-)
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat even_odd.sh
echo '----------Even or Odd number check program----------'
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git stash apply
Auto-merging even_odd.sh
On branch main
Your branch is ahead of 'origin/main' by 2 commits.
  (use "git push" to publish your local commits)

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:   even_odd.sh

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .a.tx.swp

no changes added to commit (use "git add" and/or "git commit -a")
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat even_odd.sh
echo '----------Even or Odd number check program-1---------'

echo 'Enter a positive number'
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat even_odd.sh
echo '----------Even or Odd number check program-1---------'

echo 'Enter a positive number'

read n

echo '------Here is the Result-------'

if [ `expr $n % 2` == 0 ]
then
        echo 'Number iss Even'
else
        echo 'Number iss Odd'
fi
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git add even_odd.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git commit -m " updated program to take only positive numbers"
[main a46fec0]  updated program to take only positive numbers
 1 file changed, 2 insertions(+), 2 deletions(-)
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ git push
Enumerating objects: 12, done.
Counting objects: 100% (12/12), done.
Delta compression using up to 2 threads
Compressing objects: 100% (7/7), done.
Writing objects: 100% (8/8), 990 bytes | 330.00 KiB/s, done.
Total 8 (delta 3), reused 0 (delta 0), pack-reused 0
To gitlab.com:test7115433/mobikart.git
   edf48f1..a46fec0  main -> main
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$
```

Activate Windows
Go to Settings to activate Windows.

even_odd.sh 229 B Blame Edit

```
1  echo '----------Even or Odd number check program-1---------'
2
3  echo 'Enter a positive number'
4
5  read n
6
7  echo '------Here is the Result-------'
8
9  if [ `expr $n % 2` == 0 ]
10 then
11         echo 'Number iss Even'
12 else
13         echo 'Number iss Odd'
14 fi
15
```

Assignment-7:

Create a file name as marks.txt and write the data as student name, subject and marks. By using awk command print the details as per the user requirement.

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ nano marks.txt
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat marks.txt
sno     name    subject         marks
1       amith   Maths           87
2       rahul   science         56
3       rohith  english         79
4       laxman  physics         90
5       reethu  Hindi           86
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ awk '{print $2}'
marks.txt

^Z
[1]+  Stopped                 awk '{print $2}'
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ awk '{print $2}' marks.txt
name
amith
rahul
rohith
laxman
reethu
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ awk '{print $2 "\t" $3}' marks.txt
name    subject
amith   Maths
rahul   science
rohith  english
laxman  physics
reethu  Hindi
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ awk '/m/ {print $0}' marks.txt
sno     name    subject         marks
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ awk '/m/ {print $0}' marks.txt
sno     name    subject         marks
1       amith   Maths           87
4       laxman  physics         90
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ awk '/8/ {print $0}' marks.txt
1       amith   Maths           87
5       reethu  Hindi           86
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ awk '/9/ {print $0}' marks.txt
3       rohith  english         79
4       laxman  physics         90
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat marks.txt
sno     name    subject         marks
1       amith   Maths           87
2       rahul   science         56
3       rohith  english         79
4       laxman  physics         90
5       reethu  Hindi           86
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ sed 's/amith/smith/' marks.txt
sno     name    subject         marks
1       smith   Maths           87
2       rahul   science         56
3       rohith  english         79
4       laxman  physics         90
5       reethu  Hindi           86
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat marks.txt
sno     name    subject         marks
1       amith   Maths           87
2       rahul   science         56
```

```
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat marks.txt
sno     name    subject         marks
1       amith   Maths           87
2       rahul   science         56
3       rohith  english         79
4       laxman  physics         90
5       reethu  Hindi           86
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ sed 's/amith/smith/' marks.txt >marks1.txt
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ ls m*
marks1.txt  marks.txt  merge.sh
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat marks1.txt
sno     name    subject         marks
1       smith   Maths           87
2       rahul   science         56
3       rohith  english         79
4       laxman  physics         90
5       reethu  Hindi           86
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$ cat marks.txt
sno     name    subject         marks
1       amith   Maths           87
2       rahul   science         56
3       rohith  english         79
4       laxman  physics         90
5       reethu  Hindi           86
rps@rps-virtual-machine:~/mobikart_13_8/mobikart$
```

Activate
Go to Sett