Software engineering 24-09-2025

TP report:

2 - Configuring your git account:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /mnt/c/Users/nassi/Desktop/tpgit/.git/
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git config user.name "Lazr
ek Nassim"
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git config user.email "nas
sim.lazrek@um6p.ma"
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat ~/.gitconfig
[user]
        email = nassim.lazrek@um6p.ma
        name = Lazrek Nassim
```

3 - Initializing a Git Repository:

- adding apple to fruits.txt and making a commit

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ touch fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master

No commits yet

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

nothing added to commit but untracked files present (use "git add" to track)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   fruits.txt

nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "apple" >> fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   fruits.txt

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:   fruits.txt

nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   fruits.txt

nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "added apple
 top fruits"
[master (root-commit) 1550279] added apple top fruits
 1 file changed, 1 insertion(+)
 create mode 100644 fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 15502791ba82b06b782748561a9e8298f0ca7f56 (HEAD -> master)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100

    added apple top fruits
```

- adding banana to fruits and making a commit:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master
nothing to commit, working tree clean
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "banana" >> fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master
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:   fruits.txt

no changes added to commit (use "git add" and/or "git commit -a")
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   fruits.txt

nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "added banana to fruits.txt"
[master 68cf8a6] added banana to fruits.txt
 1 file changed, 1 insertion(+)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master
nothing to commit, working tree clean
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 68cf8a6ba745ba6db1357857c5abb4c73cde3d55 (HEAD -> master)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:30:58 2025 +0100

    added banana to fruits.txt

commit 15502791ba82b06b782748561a9e8298f0ca7f56
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100

    added apple top fruits
```

- adding orange, mango and kiwi to fruits.txt using the same sequencer of commands and checking thge final and global log for fruits.txt:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log --graph --oneline --decorate --all
* 610a167 (HEAD -> master) added kiwi to fruits.txt
* 6f56cc3 added mango to fruits.txt
* 0ddf633 added orange to fruits.txt
* 68cf8a6 added banana to fruits.txt
* 1550279 added apple top fruits
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 610a16727d18e3d77bb2921cfca75b00bc92bc80 (HEAD -> master)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:37:25 2025 +0100

    added kiwi to fruits.txt

commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:36:26 2025 +0100

    added mango to fruits.txt

commit 0ddf633f06cd832f536c6412dd65a39db359dd4b
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:33:49 2025 +0100

    added orange to fruits.txt

commit 68cf8a6ba745ba6db1357857c5abb4c73cde3d55
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:30:58 2025 +0100

    added banana to fruits.txt

commit 15502791ba82b06b782748561a9e8298f0ca7f56
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100

    added apple top fruits
```

4 - Git Branches:

- Branch vegetables:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout -b vegetables
Switched to a new branch 'vegetables'
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git branch
  master
* vegetables
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ touch vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "carrot" >> vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Add carrot to vegtables.txt"
[vegetables 804611d] Add carrot to vegtables.txt
 1 file changed, 1 insertion(+)
 create mode 100644 vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "broccoli" >> vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Added broccoli to vegetables.txt"
[vegetables ae396f2] Added broccoli to vegetables.txt
 1 file changed, 1 insertion(+)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "spinach" >> vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Added spinach to vegetables.txt"
[vegetables a46e478] Added spinach to vegetables.txt
 1 file changed, 1 insertion(+)
```

- checking the log:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit a46e47895f0e4c5539946ff13d9bf8061bd49210 (HEAD -> vegetables)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt

commit ae396f26cca1c51d2bb7137979e9a1bceb2397ad
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:46:11 2025 +0100

    Added broccoli to vegetables.txt

commit 804611d55121305ee92b22963fd697d7b70546af
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:45:12 2025 +0100

    Add carrot to vegtables.txt

commit 610a16727d18e3d77bb2921cfca75b00bc92bc80 (master)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:37:25 2025 +0100

    added kiwi to fruits.txt

commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:36:26 2025 +0100

    added mango to fruits.txt
:...skipping...
commit a46e47895f0e4c5539946ff13d9bf8061bd49210 (HEAD -> vegetables)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt

commit ae396f26cca1c51d2bb7137979e9a1bceb2397ad
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:46:11 2025 +0100

    Added broccoli to vegetables.txt

commit 804611d55121305ee92b22963fd697d7b70546af
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:45:12 2025 +0100
```

```
commit 804611d55121305ee92b22963fd697d7b70546af
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:45:12 2025 +0100

    Add carrot to vegtables.txt

commit 610a16727d18e3d77bb2921cfca75b00bc92bc80 (master)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:37:25 2025 +0100

    added kiwi to fruits.txt

commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:36:26 2025 +0100

    added mango to fruits.txt

commit 0ddf633f06cd832f536c6412dd65a39db359dd4b
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:33:49 2025 +0100

    added orange to fruits.txt

commit 68cf8a6ba745ba6db1357857c5abb4c73cde3d55
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:30:58 2025 +0100

    added banana to fruits.txt

commit 15502791ba82b06b782748561a9e8298f0ca7f56
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100
:
commit a46e47895f0e4c5539946ff13d9bf8061bd49210 (HEAD -> vegetables)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt

commit ae396f26cca1c51d2bb7137979e9a1bceb2397ad
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:46:11 2025 +0100

    Added broccoli to vegetables.txt
```

commit 804611d55121305ee92b22963fd697d7b70546af
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date: Thu Sep 25 19:45:12 2025 +0100

    Add carrot to vegtables.txt

commit 610a16727d18e3d77bb2921cfca75b00bc92bc80 (master)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date: Thu Sep 25 19:37:25 2025 +0100

    added kiwi to fruits.txt

commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date: Thu Sep 25 19:36:26 2025 +0100

    added mango to fruits.txt
:
commit a46e47895f0e4c5539946ff13d9bf8061bd49210 (HEAD -> vegetables)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date: Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt

commit ae396f26cca1c51d2bb7137979e9a1bceb2397ad
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date: Thu Sep 25 19:46:11 2025 +0100

    Added broccoli to vegetables.txt

commit 804611d55121305ee92b22963fd697d7b70546af
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date: Thu Sep 25 19:45:12 2025 +0100

    Add carrot to vegtables.txt

commit 610a16727d18e3d77bb2921cfca75b00bc92bc80 (master)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date: Thu Sep 25 19:37:25 2025 +0100

    added kiwi to fruits.txt

commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date: Thu Sep 25 19:36:26 2025 +0100

```
commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:36:26 2025 +0100

    added mango to fruits.txt

commit 0ddf633f06cd832f536c6412dd65a39db359dd4b
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:33:49 2025 +0100

    added orange to fruits.txt

commit 68cf8a6ba745ba6db1357857c5abb4c73cde3d55
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:30:58 2025 +0100

    added banana to fruits.txt

commit 15502791ba82b06b782748561a9e8298f0ca7f56
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100
:
```

- Branch sauces:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ ls
fruits.txt  vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout -b sauces
Switched to a new branch 'sauces'
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ touch sauces.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "ketchup" >> sauces.txt
git add sauces.txt
git commit -m "Add ketchup to sauces list"
[sauces 1c92787] Add ketchup to sauces list
 1 file changed, 1 insertion(+)
 create mode 100644 sauces.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "mustard" >> sauces.txt
git add sauces.txt
git commit -m "Add mustard to sauces list"
[sauces 273feae] Add mustard to sauces list
 1 file changed, 1 insertion(+)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git branch
  master
* sauces
  vegetables
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 273feae449e5789daa6dbae32c9e3ca1a13dcdbd (HEAD -> sauces)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:52:41 2025 +0100

    Add mustard to sauces list

commit 1c92787733935c43e07a22465596e7f7550e9067
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:52:28 2025 +0100

    Add ketchup to sauces list
```

5 - git Merges:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout vegetables
Switched to branch 'vegetables'
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ ls
fruits.txt  vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git merge master
Already up to date.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git ckeckout master
git: 'ckeckout' is not a git command. See 'git --help'.

The most similar command is
        checkout
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout master
Switched to branch 'master'
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git merge vegetables
Updating 610a167..a46e478
Fast-forward
 vegetables.txt | 3 +++
 1 file changed, 3 insertions(+)
 create mode 100644 vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit a46e47895f0e4c5539946ff13d9bf8061bd49210 (HEAD -> master, vegetables)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt

commit ae396f26cca1c51d2bb7137979e9a1bceb2397ad
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:46:11 2025 +0100
```

```
commit 804611d55121305ee92b22963fd697d7b70546af
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:    Thu Sep 25 19:45:12 2025 +0100

    Add carrot to vegtables.txt

commit 610a16727d18e3d77bb2921cfca75b00bc92bc80
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:    Thu Sep 25 19:37:25 2025 +0100

    added kiwi to fruits.txt

commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:    Thu Sep 25 19:36:26 2025 +0100

    added mango to fruits.txt
:
```

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git merge sauces
Updating a46e478..273feae
Fast-forward
 sauces.txt | 2 ++
 1 file changed, 2 insertions(+)
 create mode 100644 sauces.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ ls
fruits.txt  q  sauces.txt  vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git branch
* master
  sauces
  vegetables
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 273feae449e5789daa6dbae32c9e3ca1a13dcdbd (HEAD -> master, sauces)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:52:41 2025 +0100

    Add mustard to sauces list

commit 1c92787733935c43e07a22465596e7f7550e9067
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:52:28 2025 +0100

    Add ketchup to sauces list

commit a46e47895f0e4c5539946ff13d9bf8061bd49210 (vegetables)
Author: Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt
```

6 - remote Repository:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git remote add origin http
s://github.com/p3w-p3w-alpha/tpgit.git
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git remote -v
origin  https://github.com/p3w-p3w-alpha/tpgit.git (fetch)
origin  https://github.com/p3w-p3w-alpha/tpgit.git (push)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git remote add origin http
s://github.com/p3w-p3w-alpha/tpgit.git
error: remote origin already exists.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git remote -v
origin  https://github.com/p3w-p3w-alpha/tpgit.git (fetch)
origin  https://github.com/p3w-p3w-alpha/tpgit.git (push)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push -u origin master
Username for 'https://github.com': p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
Enumerating objects: 30, done.
Counting objects: 100% (30/30), done.
Delta compression using up to 22 threads
Compressing objects: 100% (15/15), done.
Writing objects: 100% (30/30), 2.54 KiB | 8.00 KiB/s, done.
Total 30 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/p3w-p3w-alpha/tpgit.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
```

Find a repository...

🟣 p3w-p3w-alpha/tpgit

8 - Merge without Conflict:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout -b spices
Switched to a new branch 'spices'
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ touch spices.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "cinnamon" >> spices.
txt
git add spices.txt
git commit -m "Add cinnamon to spices list"

echo "paprika" >> spices.txt
git add spices.txt
git commit -m "Add paprika to spices list"
[spices ecffa7f] Add cinnamon to spices list
 1 file changed, 1 insertion(+)
 create mode 100644 spices.txt
[spices db188c0] Add paprika to spices list
 1 file changed, 1 insertion(+)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout master
git merge spices
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
Updating 273feae..db188c0
Fast-forward
 spices.txt | 2 ++
 1 file changed, 2 insertions(+)
 create mode 100644 spices.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull
Already up to date.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push
Username for 'https://github.com': p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push
Username for 'https://github.com': p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 22 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (6/6), 555 bytes | 39.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
To https://github.com/p3w-p3w-alpha/tpgit.git
   273feae..db188c0  master -> master
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ ls
fruits.txt  q  sauces.txt  spices.txt  vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log --oneline
db188c0 (HEAD -> master, origin/master, spices) Add paprika to spices list
ecffa7f Add cinnamon to spices list
273feae (sauces) Add mustard to sauces list
1c92787 Add ketchup to sauces list
a46e478 (vegetables) Added spinach to vegetables.txt
ae396f2 Added broccoli to vegetables.txt
804611d Add carrot to vegtables.txt
610a167 added kiwi to fruits.txt
6f56cc3 added mango to fruits.txt
0ddf633 added orange to fruits.txt
68cf8a6 added banana to fruits.txt
1550279 added apple top fruits
```

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull
remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 8 (delta 3), reused 8 (delta 3), pack-reused 0 (from 0)
Unpacking objects: 100% (8/8), 768 bytes | 8.00 KiB/s, done.
From https://github.com/p3w-p3w-alpha/tpgit
   db188c0..546023e  master       -> origin/master
Updating db188c0..546023e
Fast-forward
 herbs.txt | Bin 0 -> 34 bytes
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 herbs.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log --oneline
546023e (HEAD -> master, origin/master) Merge branch 'master' of https://github.com
/p2w-p3w-alpha/tpgit
870fa99  add oregano to herbs list
405bafd add basil to herbs list
db188c0 (spices) Add paprika to spices list
ecffa7f Add cinnamon to spices list
273feae (sauces) Add mustard to sauces list
1c92787 Add ketchup to sauces list
a46e478 (vegetables) Added spinach to vegetables.txt
ae396f2 Added broccoli to vegetables.txt
804611d Add carrot to vegtables.txt
610a167 added kiwi to fruits.txt
6f56cc3 added mango to fruits.txt
0ddf633 added orange to fruits.txt
68cf8a6 added banana to fruits.txt
1550279 added apple top fruits
```

9 - Merge with conflict:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull origin master
From https://github.com/p3w-p3w-alpha/tpgit
 * branch            master     -> FETCH_HEAD
Already up to date.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ nano fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat fruits.txt
apple
banana
orange
strawberry
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull origin master
From https://github.com/p3w-p3w-alpha/tpgit
 * branch            master     -> FETCH_HEAD
Already up to date.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ nano fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat fruits.txt
apple
banana
orange
strawberry
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Add orange
and strawberry to fruits"
[master 72900bc] Add orange and strawberry to fruits
 1 file changed, 1 insertion(+), 2 deletions(-)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push origin master
Username for 'https://github.com': p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 22 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 324 bytes | 32.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/p3w-p3w-alpha/tpgit.git
   546023e..72900bc  master -> master
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull origin master
remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 6 (delta 2), reused 6 (delta 2), pack-reused 0 (from 0)
Unpacking objects: 100% (6/6), 623 bytes | 11.00 KiB/s, done.
From https://github.com/p3w-p3w-alpha/tpgit
 * branch            master     -> FETCH_HEAD
   72900bc..ce19384  master     -> origin/master
Updating 72900bc..ce19384
Fast-forward
 fruits.txt | 2 ++
 1 file changed, 2 insertions(+)
```

Reverse roles:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ nano vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Add lettuce
 and pepper to vegetables"
[master 4422e7b] Add lettuce and pepper to vegetables
 1 file changed, 2 insertions(+)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push origin master
Username for 'https://github.com': p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
To https://github.com/p3w-p3w-alpha/tpgit.git
 ! [rejected]        master -> master (fetch first)
error: failed to push some refs to 'https://github.com/p3w-p3w-alpha/tpgit.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull origin master
From https://github.com/p3w-p3w-alpha/tpgit
 * branch            master     -> FETCH_HEAD
Auto-merging vegetables.txt
CONFLICT (content): Merge conflict in vegetables.txt
Automatic merge failed; fix conflicts and then commit the result.
```

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat vegetables.txt
carrot
broccoli
spinach
<<<<<<< HEAD
lettuce
pepper
=======
cucumber
tomato
>>>>>>> 133dcebabef11d648bdf4d70eb921730be549ae3
```

- resolving the conflict:

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ nano vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Resolve mer
ge conflict in vegetables.txt"
[master 552882b] Resolve merge conflict in vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push origin master
Username for 'https://github.com': p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 22 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 637 bytes | 45.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
To https://github.com/p3w-p3w-alpha/tpgit.git
   133dceb..552882b  master -> master
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat vegetables.txt
carrot
broccoli
spinach
lettuce
pepper
cucumber
tomato
```