ACTIVIDAD 4

Preguntas

¿Cómo te ha ayudado git a mantener un historial claro y organizado de tus cambios?

Git es sumamente importante en este aspecto, ya que tiene un historial de commits. Este permite ver todos los cambios que se ha hecho en cada uno de estos commits y está ordenado, lo que permite tener un buen control de los cambios realizados.

¿Qué beneficios ves en el uso de ramas para desarrollar nuevas características o corregir errores?

- Aisla los cambios.
- Facilita una reversión de cambios.
- Facilita el trabajo en equipo.
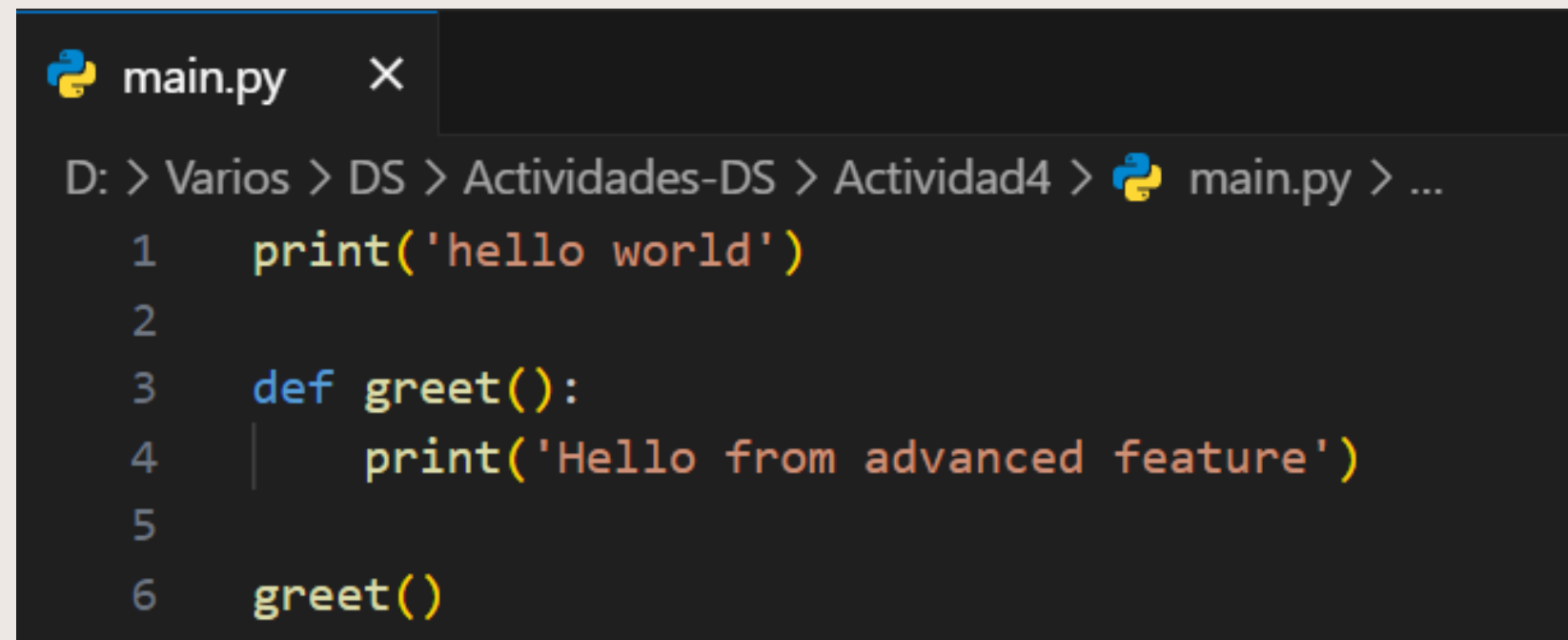
Ejercicios

1) Crear una nueva rama para una característica:

```
Albert@DESKTOP-F43VOVL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git branch feature/advanced-feature

Albert@DESKTOP-F43VOVL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git checkout feature/advanced-feature
Switched to branch 'feature/advanced-feature'

Albert@DESKTOP-F43VOVL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (feature/a
dvanced-feature)
```
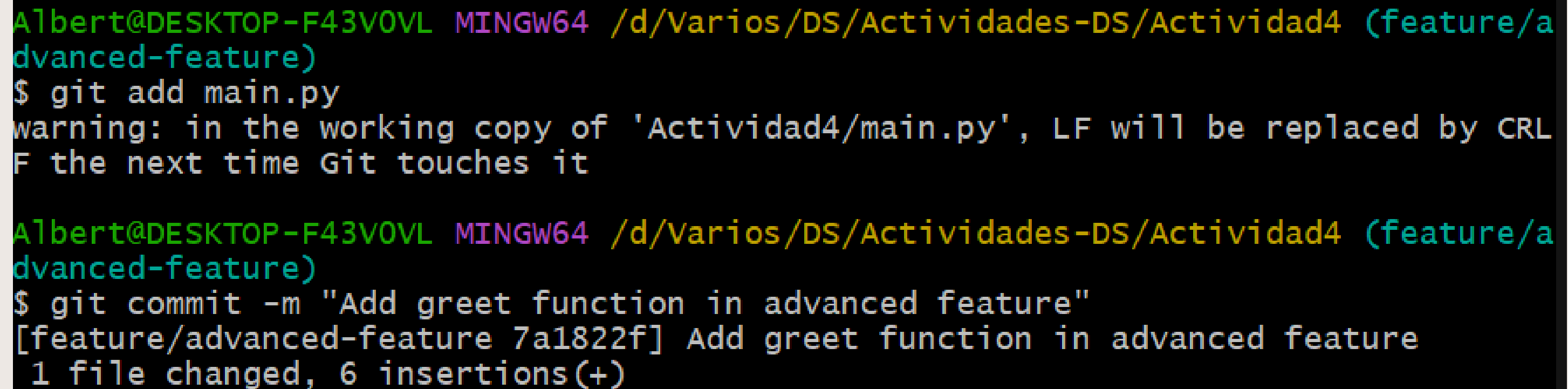
2) Modificar archivos en la nueva rama


```
main.py  ×

D: > Varios > DS > Actividades-DS > Actividad4 > 🐍 main.py > ...
  1    print('hello world')
  2
  3    def greet():
  4        print('Hello from advanced feature')
  5
  6    greet()
```

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (feature/a
dvanced-feature)
$ git add main.py
warning: in the working copy of 'Actividad4/main.py', LF will be replaced by CRL
F the next time Git touches it

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (feature/a
dvanced-feature)
$ git commit -m "Add greet function in advanced feature"
[feature/advanced-feature 7a1822f] Add greet function in advanced feature
 1 file changed, 6 insertions(+)
```

3) Simular un desarrollo paralelo en la rama main:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (feature/a
dvanced-feature)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 3 commits.
  (use "git push" to publish your local commits)

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git add main.py

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git commit -m "Update main.py message in main branch"
[main 66c5ea7] Update main.py message in main branch
 1 file changed, 1 insertion(+), 1 deletion(-)
```

4) Simular un desarrollo paralelo en la rama main:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git merge feature/advanced-feature
Auto-merging Actividad4/main.py
CONFLICT (content): Merge conflict in Actividad4/main.py
Automatic merge failed; fix conflicts and then commit the result.
```

5) Resolver el conflicto de fusión:

```python
main.py  ●

D: > Varios > DS > Actividades-DS > Actividad4 > 🐍 main.py > ...
  1    print('Hello World - updated in main')
  2
  3    def greet():
  4        print('Hello from advanced feature')
  5
  6    greet()
  7
```

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main|MERGING)
$ git add main.py

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main|MERGING)
$ git commit -m "Resolve merge conflict between main and feature/advanced-feature"
[main e98d1a2] Resolve merge conflict between main and feature/advanced-feature
```

6) Eliminar la rama fusionada:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git branch -d feature/advanced-feature
Deleted branch feature/advanced-feature (was 7a1822f).
```

1) Ver el historial detallado de commits:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git log -p
commit e98d1a2c209e55ca0df89e44029884bd817f4913 (HEAD -> main)
Merge: 66c5ea7 7a1822f
Author: Alkerg <albert.arg500@gmail.com>
Date:   Thu Apr 10 23:20:21 2025 -0500

    Resolve merge conflict between main and feature/advanced-feature

commit 66c5ea72f25e3689ea1748f1ccbc453eef09b1fe
Author: Alkerg <albert.arg500@gmail.com>
Date:   Thu Apr 10 23:17:47 2025 -0500

    Update main.py message in main branch

diff --git a/Actividad4/main.py b/Actividad4/main.py
index 75d9766..78f55b5 100644
--- a/Actividad4/main.py
+++ b/Actividad4/main.py
@@ -1 +1 @@
-print('hello world')
+print('Hello World - updated in main')
\ No newline at end of file
```

2) Filtrar commits por autor:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git log --author="Alkerg"
commit e98d1a2c209e55ca0df89e44029884bd817f4913 (HEAD -> main)
Merge: 66c5ea7 7a1822f
Author: Alkerg <albert.arg500@gmail.com>
Date:   Thu Apr 10 23:20:21 2025 -0500

    Resolve merge conflict between main and feature/advanced-feature

commit 66c5ea72f25e3689ea1748f1ccbc453eef09b1fe
Author: Alkerg <albert.arg500@gmail.com>
Date:   Thu Apr 10 23:17:47 2025 -0500

    Update main.py message in main branch

commit 7a1822f2dff3b878e191b3cba250c3a39f3c846a
Author: Alkerg <albert.arg500@gmail.com>
Date:   Thu Apr 10 23:15:58 2025 -0500

    Add greet function in advanced feature
```

3) Revertir un commit:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git revert HEAD
[main 80e2303] Revert "nuevo mensaje en main.py"
 1 file changed, 3 deletions(-)
```

4) Rebase interactivo:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git rebase -i HEAD~3
[detached HEAD d421e21] mensaje2
 Date: Thu Apr 10 23:28:13 2025 -0500
 1 file changed, 3 insertions(+), 1 deletion(-)
Successfully rebased and updated refs/heads/main.
```

4) Visualización gráfica del historial:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git log --graph --oneline --all
* d421e21 (HEAD -> main) mensaje2
* 0f86858 mensaje1
* 80e2303 Revert "nuevo mensaje en main.py"
* 010f222 nuevo mensaje en main.py
*   e98d1a2 Resolve merge conflict between main and feature/advanced-feature
|\
| * 7a1822f Add greet function in advanced feature
* | 66c5ea7 Update main.py message in main branch
|/
* b26f327 (feature/new-feature) Add main.py
* e19a794 Set up the repository base documentation
* e1355ba Initial commit with README.md
```

1) Crear una nueva rama desde un commit específico:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git log --oneline
d421e21 (HEAD -> main) mensaje2
0f86858 mensaje1
80e2303 Revert "nuevo mensaje en main.py"
010f222 nuevo mensaje en main.py
e98d1a2 Resolve merge conflict between main and feature/advanced-feature
66c5ea7 Update main.py message in main branch
7a1822f Add greet function in advanced feature
b26f327 (feature/new-feature) Add main.py
e19a794 Set up the repository base documentation
e1355ba Initial commit with README.md
```

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git branch bugfix/rollback-feature 0f86858

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git checkout bugfix/rollback-feature
Switched to branch 'bugfix/rollback-feature'
```

2) Modificar y confirmar cambios en la nueva rama:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (bugfix/rollback-feature)
$ git add main.py

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (bugfix/rollback-feature)
$ git commit -m "Fix bug in rollback feature"
[bugfix/rollback-feature 0c6d027] Fix bug in rollback feature
 1 file changed, 1 insertion(+), 1 deletion(-)
```

3) Fusionar los cambios en la rama principal:

```
Albert@DESKTOP-F43VOVL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (bugfix/rollback-feature)
$ git checkout  main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 10 commits.
  (use "git push" to publish your local commits)

Albert@DESKTOP-F43VOVL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git merge bugfix/rollback-feature
Auto-merging Actividad4/main.py
Merge made by the 'ort' strategy.
 Actividad4/main.py | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
```

4) Explorar el historial después de la fusión:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git log --graph --oneline
*   e863421 (HEAD -> main) Merge branch 'bugfix/rollback-feature'
|\
| * 0c6d027 (bugfix/rollback-feature) Fix bug in rollback feature
* | d421e21 mensaje2
|/
* 0f86858 mensaje1
* 80e2303 Revert "nuevo mensaje en main.py"
* 010f222 nuevo mensaje en main.py
*   e98d1a2 Resolve merge conflict between main and feature/advanced-feature
|\
| * 7a1822f Add greet function in advanced feature
* | 66c5ea7 Update main.py message in main branch
|/
* b26f327 (feature/new-feature) Add main.py
* e19a794 Set up the repository base documentation
* e1355ba Initial commit with README.md
```

5) Eliminar la rama bugfix/rollback-feature:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git branch -d bugfix/rollback-feature
Deleted branch bugfix/rollback-feature (was 0c6d027).
```

1) Hacer cambios en el archivo main.py:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git commit -m "Introduce a change reset"
[main e7b9e4c] Introduce a change reset
 1 file changed, 3 insertions(+), 2 deletions(-)
```

2) Usar git reset para deshacer el commit

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git reset --hard HEAD~1
HEAD is now at e863421 Merge branch 'bugfix/rollback-feature'
```

3) Usar git restore para deshacer cambios no confirmados:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ echo "Another line in README" >> README.md

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git status
On branch main
Your branch is ahead of 'origin/main' by 12 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:   README.md

no changes added to commit (use "git add" and/or "git commit -a")

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividades-DS/Actividad4 (main)
$ git restore README.md
```

1) Crear un nuevo repositorio remoto:

KINGSTON (D:) > Varios > DS > Actividad-4

Name

.git
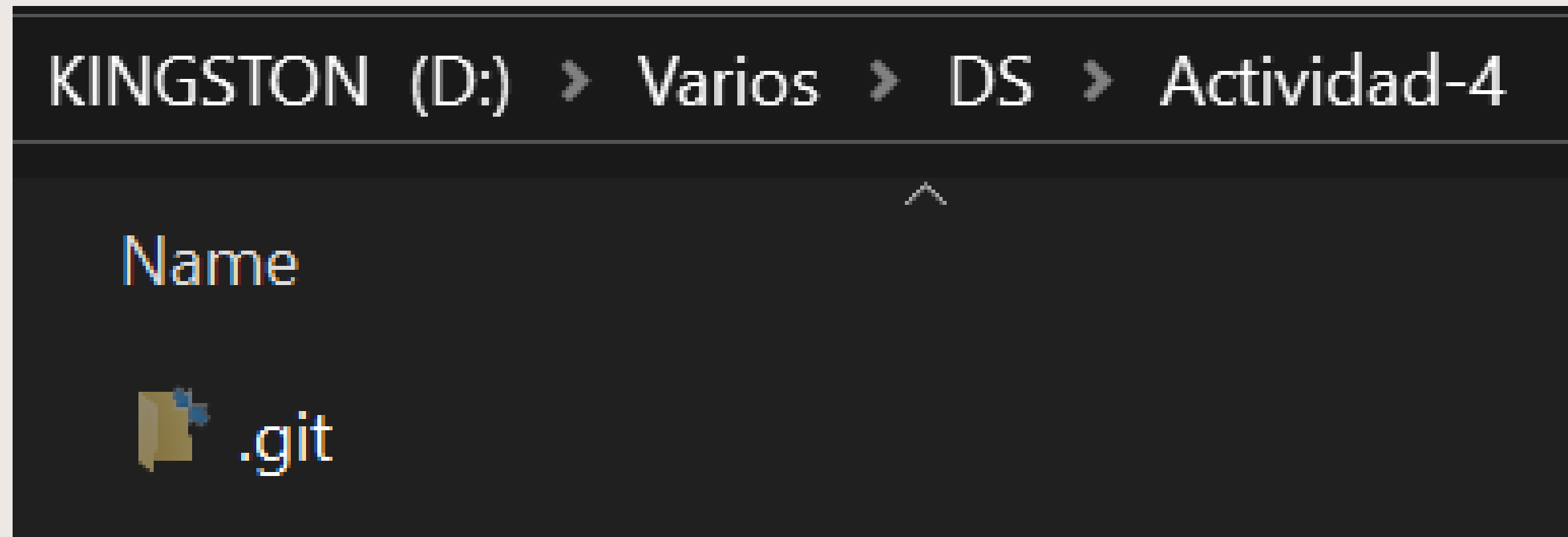
2) Crear una nueva rama para desarrollo de una característica:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (main)
$ git branch feature/team-feature

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (main)
$ git checkout feature/team-feature
Switched to branch 'feature/team-feature'
```

3) Realizar cambios y enviar la rama al repositorio remoto:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (feature/team-feature)
$ git add .

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (feature/team-feature)
$ git commit -m "add collaboration script, this is real :)"
[feature/team-feature b5108a3] add collaboration script, this is real :)
 1 file changed, 1 insertion(+)
 create mode 100644 collaboration.py

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (feature/team-feature)
$ git push origin feature/team-feature
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 515 bytes | 515.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:Alkerg/Actividad-4.git
 * [new branch]      feature/team-feature -> feature/team-feature
```

4) Abrir un Pull Request:

Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks. Learn more about diff com

base: main ← compare: feature/team-feature ✓ **Able to merge.** These branches can be automatically merged.

Add a title

Add collaboration script to main branch

Add a description

| Write | Preview |

this script is fundamental for the main branch, check the code

🔲 Markdown is supported   🖼 Paste, drop, or click to add files

Create pull request ▾

5) Revisar y fusionar el Pull Request:

main 2 Branches 0 Tags Go to file t Add file <> Code

This branch is 1 commit ahead of feature/team-feature . Contribute

Alkerg Merge pull request #1 from Alkerg/feature/team-feature ... 4ed7ce9 · now 4 Commits

README.md Initial commit 13 minutes ago

collaboration.py add a nice messagge 3 minutes ago

6) Eliminar la rama remota y local:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (main)
$ git branch -D feature/team-feature
Deleted branch feature/team-feature (was 5d859ac).
```

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (main)
$ git push origin --delete feature/team-feature
To github.com:Alkerg/Actividad-4.git
 - [deleted]         feature/team-feature
```

1) Hacer cambios en main.py y confirmarlos:

```
Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (main)
$ git add .

Albert@DESKTOP-F43V0VL MINGW64 /d/Varios/DS/Actividad-4 (main)
$ git commit -m "add cherry-pick example"
[main 8ec461b] add cherry-pick example
 1 file changed, 1 insertion(+)
 create mode 100644 main.py
```