

Universidad de San Carlos de Guatemala
Facultad de Ingeniería
Escuela de Ciencias y Sistemas
IPC1. Sección A



TAREA 2

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PARTE 1: “Diagramas de Flujo y PseudoCódigo”

1) Determinar si un número es primo

PSEUDOCÓDIGO:

```
DEFINE      entero n = 0
DEFINE      entero contadorEnteros = 0
DEFINE      entero i = 0

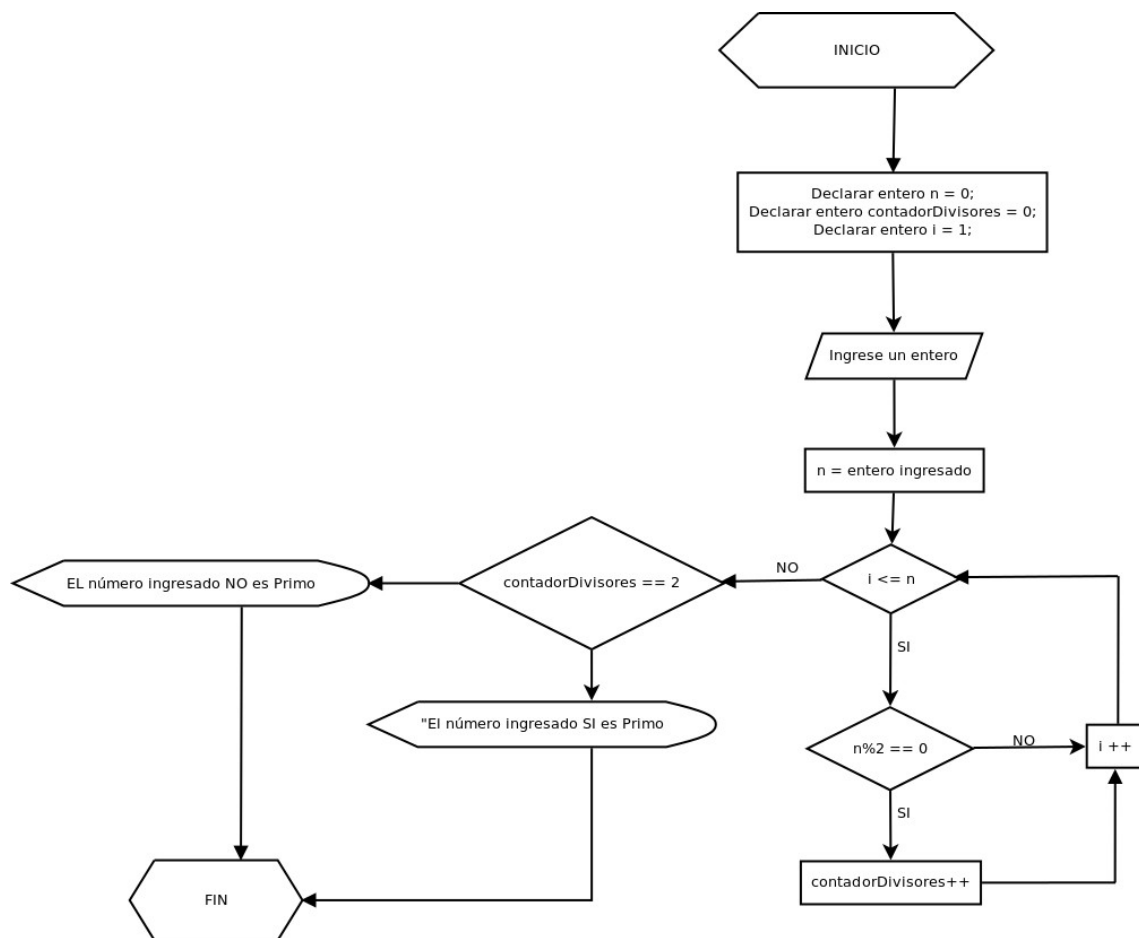
n = Leer()

MIENTRAS (i <= n)
HACER:
    SI (n%2) == 0
        HACER:
            contadorDivisores++
            i++
    DE LO CONTRARIO
        HACER:
            i++
TERMINA MIENTRAS

SI contadorDivisores == 2
    HACER:
        IMPRIMIR: "El número ingresado SI es Primo"

DE LO CONTRARIO
    HACER:
        IMPRIMIR: "El número ingresado NO es Primo"
```

DIAGRAMA DE FLUJO



2) Convertir un valor dado en Minutos a Horas

PSEUDOCÓDIGO:

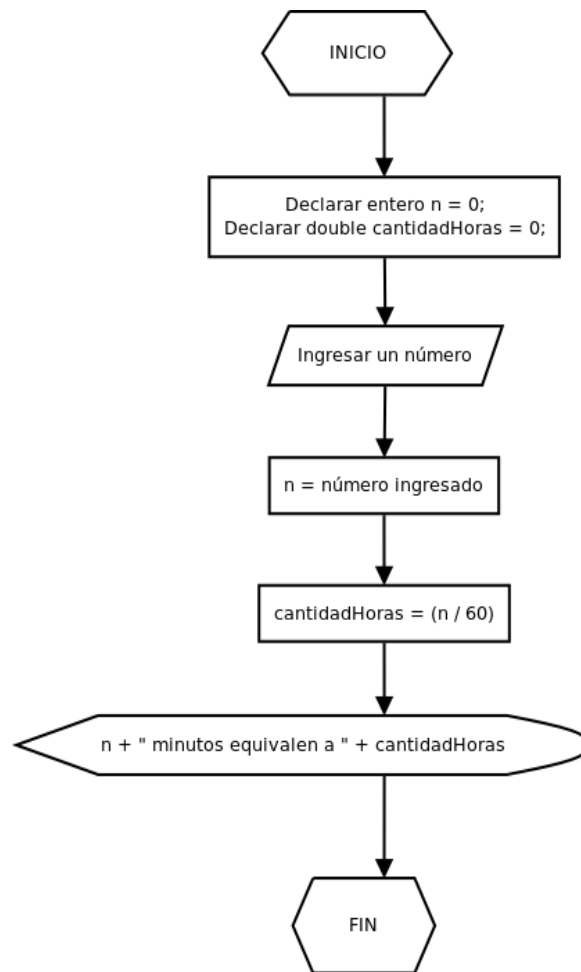
DEFINE entero N = 0
DEFINE double cantidadHoras = 0

N = Leer ()

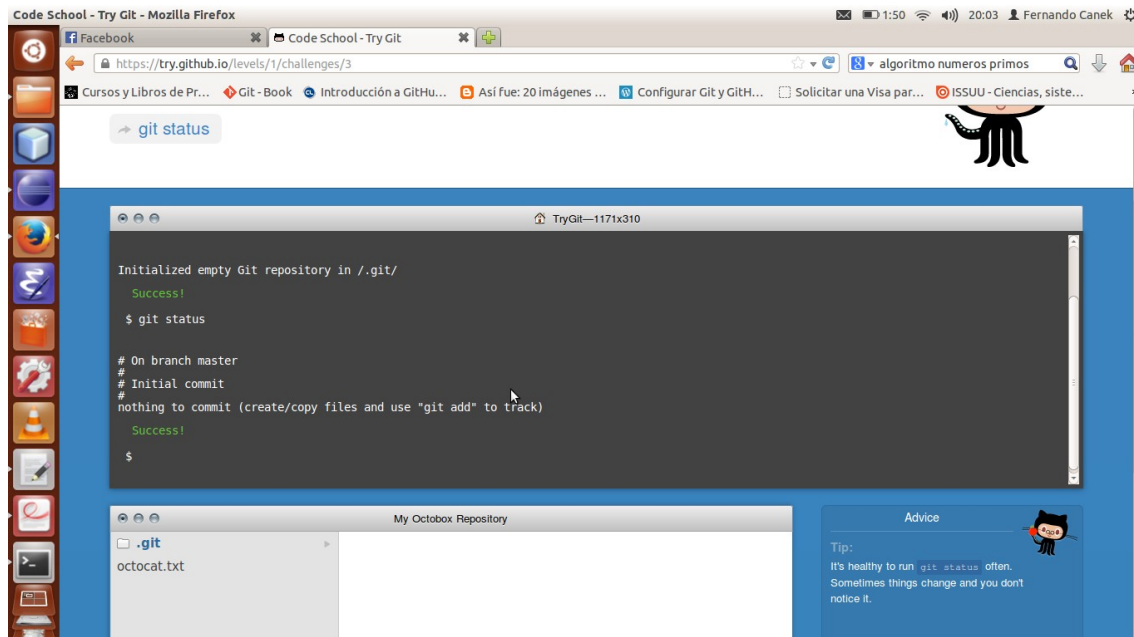
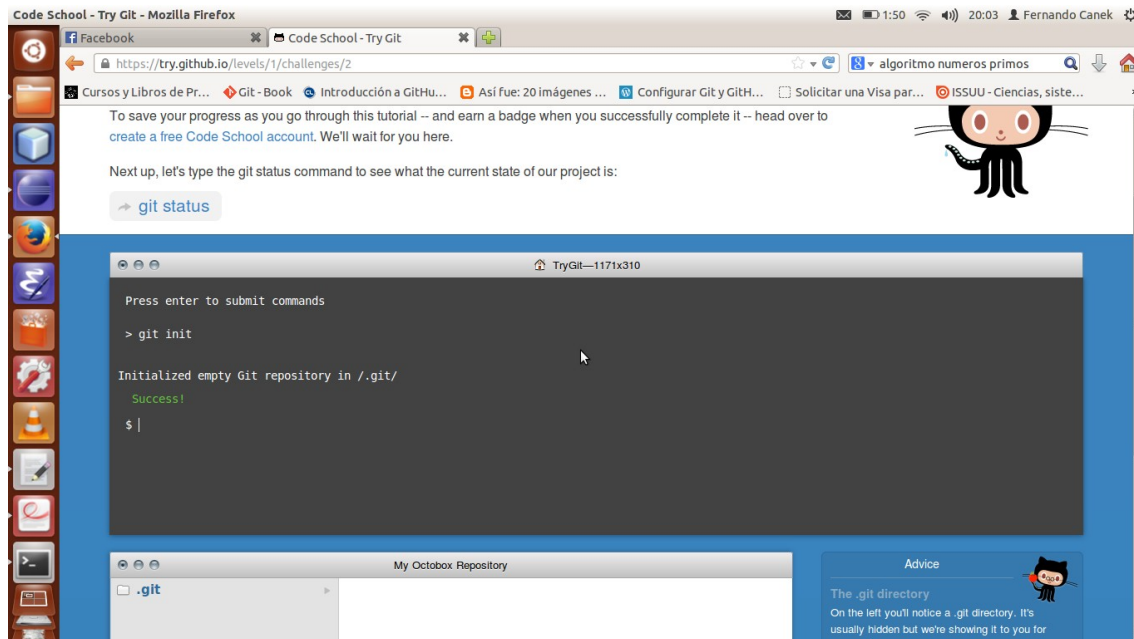
cantidadHoras = n/60

IMPRIMIR: n + " minutos equivale a " + cantidadHoras

DIAGRAMA DE FLUJO



PARTE 2: “Tutorial de Introducción a GitHub”



Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/4

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

Good, it looks like our git repository is working properly. Notice now git says octocat.txt is "untracked". That means git sees that octocat.txt is a new file.

To tell Git to start tracking changes made to octocat.txt, we first need to add it to the staging area by using git add.

`git add octocat.txt`

```
Success!
$ git status

# On branch master
#
# Initial commit
#
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#   octocat.txt
#
nothing added to commit but untracked files present (use "git add" to track)
Success!
$ |
```

My Octobox Repository

.git
octocat.txt

Advice

staged:
Files are ready to be committed.

unstaged:

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/5

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

Good job! Git is now tracking our octocat.txt file. Let's run git status again to see where we stand.

`git status`

```
# Initial commit
#
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#   octocat.txt
#
nothing added to commit but untracked files present (use "git add" to track)
Success!
$ git add octocat.txt

Nice job, you've added octocat.txt to the Staging Area
$ |
```

My Octobox Repository

.git
octocat.txt

Advice

add all:
You can also type `git add -A`. Where the dot stands for the current directory, so

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/6

Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

Notice how Git says changes to be committed? The files listed here are in the Staging Area, and they are not in our repository yet. We could add or remove files from the stage before we store them in the repository.

To store our staged changes we run the commit command with a message describing what we've changed. Let's do that now by typing:

```
git commit -m "Add cute octocat story"
```

TryGit—1171x310

```
Nice job, you've added octocat.txt to the Staging Area
$ git status

# On branch master
# Initial commit
# Changes to be committed:
#   (use "git rm --cached <file>..." to unstage)
#
#       new file:   octocat.txt
#
Success!
$
```

My Octobox Repository

- .git
- octocat.txt

Advice

Staging Area:
A place where we can group files together before we "commit" them to Git.

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/7

Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

Great! You also can use wildcards if you want to add many files of the same type. Notice that I've added a bunch of .txt files into your directory below.

I put some in a directory named "octofamily" and some others ended up in the root of our "octobox" directory. Luckily, we can add all the new files using a wildcard with git add. Don't forget the quotes!

```
git add '*.txt'
```

TryGit—1171x310

```
# Changes to be committed:
#   (use "git rm --cached <file>..." to unstage)
#
#       new file:   octocat.txt
#
Success!

$ git commit -m "Add cute octocat story"

[master (root-commit) 20b5cdd] Add cute octocat story
1 file changed, 1 insertion(+)
create mode 100644 octocat.txt

Success!
$
```

My Octobox Repository

- .git
- octofamily

Advice

Wildcards:
We need quotes so that Git will receive the wildcard before our shell can interfere with it.

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/8

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

Okay, you've added all the text files to the staging area. Feel free to run git status to see what you're about to commit.

If it looks good, go ahead and run:

```
git commit -m 'Add all the octocat txt files'
```

TryGit—1171x310

```
$ git commit -m "Add cute octocat story"

[master (root-commit) 20b5ccd] Add cute octocat story
1 file changed, 1 insertion(+)
create mode 100644 octocat.txt
Success!

$ git add '*.txt'

Success!

$
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt

Advice

Check all the things!

When using wildcards you want to be extra careful when doing commits. Make sure to

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/9

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order we committed them. Try running it now:

```
git log
```

TryGit—1171x310

```
Success!

$ git commit -m 'Add all the octocat txt files'

[master 3852b4d] Add all the octocat txt files
4 files changed, 4 insertions(+)
create mode 100644 blue_octocat.txt
create mode 100644 octofamily/baby_octocat.txt
create mode 100644 octofamily/momma_octocat.txt
create mode 100644 red_octocat.txt
Success!

$ |
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt
- octocat.txt
- red_octocat.txt

Advice

More useful logs:

Use `git log --summary` to see more information for each commit. You can see where new files were added for the first time or where files were deleted. It's a good overview of what's going on in the project.

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/10

Cursos y Libros de Pr... Git - Book Introducción a GitHu... Así fue: 20 imágenes ... Configurar Git y GitH... Solicitar una Visa par... ISSUU - Ciencias, siste...

This command takes a *remote name* and a *repository URL*, which in your case is `https://github.com/try-git/try_git.git`.

Go ahead and run `git remote add` with the options below:

```
git remote add origin https://github.com/try-git/try_git.git
```

TryGit—1171x310

```
$ git log

commit 3852b4db1634463d0b4d267edb7b3f9cd02ace1
Author: Try Git <try_git@github.com>
Date:   Sat Oct 10 08:30:00 2020 -0500

    Add all the octocat txt files

commit b652edfd888cd3d5e7fcb857d0dabc5a0fcb5e28
Author: Try Git <try_git@github.com>
Date:   Sat Oct 10 08:30:00 2020 -0500

    Added cute octocat story

Success!

$
```

My Octobox Repository

- .git
- octobox

Advice

git remote:
Git doesn't care what you name your remotes, but it's typical to name your main one `origin`.

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/11

Cursos y Libros de Pr... Git - Book Introducción a GitHu... Así fue: 20 imágenes ... Configurar Git y GitH... Solicitar una Visa par... ISSUU - Ciencias, siste...

The name of our remote is `origin` and the default local branch name is `master`. The `-u` tells Git to remember the parameters, so that next time we can simply run `git push` and Git will know what to do. Go ahead and push it!

```
git push -u origin master
```

TryGit—1171x310

```
    Add all the octocat txt files

commit b652edfd888cd3d5e7fcb857d0dabc5a0fcb5e28
Author: Try Git <try_git@github.com>
Date:   Sat Oct 10 08:30:00 2020 -0500

    Added cute octocat story

Success!

$ git remote add origin https://github.com/try-git/try_git.git

Success!

$ |
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt
- octocat.txt

Advice

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/12

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

We can check for changes on our GitHub repository and pull down any new changes by running:

[git pull origin master](#)

TryGit—1171x310

```
Success!
$ git remote add origin https://github.com/try-git/try_git.git

Success!
$ git push -u origin master

Branch master set up to track remote branch master from origin.
Success!
$ |
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt
- octocat.txt
- red_octocat.txt

Advice

git stash:

Sometimes when you go to pull you may have changes you don't want to commit just yet. One option you have, other than committing, is to stash the changes. Use the command `git stash` to stash.

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/13

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

In this case we want the diff of our most recent commit, which we can refer to using the HEAD pointer.

[git diff HEAD](#)

TryGit—1171x310

```
Branch master set up to track remote branch master from origin.
Success!
$ git pull origin master

Updating 3852b4d..3e70b0f
Fast-forward
 yellow octocat.txt | 1
 1 file changed, 1 insertion(+)
 create mode 100644 yellow_octocat.txt
Success!
$ |
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt
- octocat.txt
- red_octocat.txt

Advice

HEAD

The HEAD is a pointer that holds your position within all your different commits. By default HEAD points to your most recent commit, so it can be used as a quick way to reference that commit without having to look

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/14

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Let's use git add to stage octofamily/octocat.txt, which I just added to the family for you.

git add octofamily/octocat.txt

```
create mode 100644 yellow_octocat.txt
Success!
$ git diff HEAD

diff --git a/octocat.txt b/octocat.txt
index 7d8d808..e725ef6 100644
--- a/octocat.txt
+++ b/octocat.txt
@@ -1,1 @@
-A Tale of Two Octocats
+A Tale of Two Octocats and an Octodog
Success!
$
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt
- octocat.txt
- red_octocat.txt

Advice

Commit Etiquette:

You want to try to keep related changes together in separate commits. Using `git diff` gives you a good overview of changes you have made and lets you add files or directories one at a time and commit them

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/15

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

git diff --staged

```
diff --git a/octocat.txt b/octocat.txt
index 7d8d808..e725ef6 100644
--- a/octocat.txt
+++ b/octocat.txt
@@ -1,1 @@
-A Tale of Two Octocats
+A Tale of Two Octocats and an Octodog
Success!
$ git add octofamily/octocat.txt

Success!
$
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt
- octocat.txt
- red_octocat.txt

Advice

Commit Etiquette:

You want to try to keep related changes together in separate commits. Using `git diff` gives you a good overview of changes you have made and lets you add files or directories one at a time and commit them

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/16

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

You can unstage files by using the git reset command. Go ahead and remove octofamily/octodog.txt.

[git reset octofamily/octodog.txt](#)

```
Success!
$ git diff --staged

diff --git a/octofamily/octodog.txt b/octofamily/octodog.txt
new file mode 100644
index 0000000..cfbc74a
--- /dev/null
+++ b/octofamily/octodog.txt
@@ -0,0 +1 @@

```

Success!

`$`

My Octobox Repository

- .git
- octofamily
 - blue_octocat.txt
 - octocat.txt
 - red_octocat.txt

Advice

Commit Etiquette:

You want to try to keep related changes together in separate commits. Using `git diff` gives you a good overview of changes you have made and lets you add files or directories one at a time and commit them

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/17

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

git reset did a great job of unstaging octodog.txt, but you'll notice that it's still there: it's just not staged anymore. It would be great if we could go back to how things were before octodog came around and ruined the party.

Files can be changed back to how they were at the last commit by using the command: `git checkout -- <target>`. Go ahead and get rid of all the changes since the last commit for octocat.txt

[git checkout -- octocat.txt](#)

```
diff --git a/octofamily/octodog.txt b/octofamily/octodog.txt
new file mode 100644
index 0000000..cfbc74a
--- /dev/null
+++ b/octofamily/octodog.txt
@@ -0,0 +1 @@

Success!

$ git reset octofamily/octodog.txt

Success!

$
```

My Octobox Repository

- .git
- octofamily

Advice

The '!'

So you may be wondering, why do I have to use this? Well, this is a good way to

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/18

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When developers are working on a feature or bug they often create a copy (aka. branch) of their code they can make separate commits to. Then when they're done they can merge this branch back into their main master branch.

We want to remove all these pesky octocats, so let's create a branch called `clean_up`, where we'll do all the work:

```
git branch clean_up
```

TryGit—1171x310

```
Success!
$ git checkout --octocat.txt
unrecognized option '--octocat.txt'
$ git checkout -- octocat.txt
Success!
$ |
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt

Advice

Branching

Branches are what naturally happens when you want to work on multiple features at the

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/19

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

When you type `git branch` you see two local branches: a main branch named `master` and your new branch named `clean_up`.

You can switch branches using the `git checkout <branch>` command. Try it now to switch to the `clean_up` branch:

```
git checkout clean_up
```

TryGit—1171x310

```
unrecognized option '--octocat.txt'
$ git checkout -- octocat.txt
Success!
$ git branch clean_up
Success!
$ |
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt

Advice

All at Once

You can use:

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/20

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

Ok, so you're in the `clean_up` branch. You can't really remove all those pesky octocats by using the `git rm` command which will not only remove the actual files from disk, but will also stage the removal of the files for us.

You're going to want to use a wildcard again to get all the octocats in one sweep, go ahead and run:

```
git rm '*.txt'
```

TryGit—1171x310

```
Success!
$ git branch clean_up


Success!
$ git checkout clean_up

Switched to branch 'clean_up'
Success!
$
```

My Octobox Repository

- .git
- octofamily
 - blue_octocat.txt

Advice



Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/21

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Now that you've removed all the cats you'll need to commit your changes.

Feel free to run `git status` to check the changes you're about to commit.

```
git commit -m "Remove all the cats"
```

TryGit—1171x310

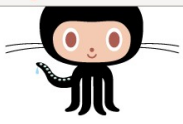
```
Switched to branch 'clean_up'
Success!
$ git rm '*.txt'

rm 'blue_octocat.txt'
rm 'octocat.txt'
rm 'octofamily/baby_octocat.txt'
rm 'octofamily/momma_octocat.txt'
rm 'red_octocat.txt'
Success!
$
```

My Octobox Repository

- .git
- octofamily

Advice



Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/22

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Great, you're almost finished with the cat... er the bug fix; you just need to switch back to the master branch so you can copy (or merge) your changes from the clean_up branch back into the master branch.

Go ahead and checkout the master branch:

[git checkout master](#)

```
rm 'red_octocat.txt'
Success!
$ git commit -m "Remove all the cats"

[clean up 63540fe] Remove all the cats
5 files changed, 5 deletions(-)
delete mode 100644 blue_octocat.txt
delete mode 100644 octocat.txt
delete mode 100644 octofamily/baby_octocat.txt
delete mode 100644 octofamily/momma_octocat.txt
delete mode 100644 red_octocat.txt
Success!
$ |
```

My Octobox Repository

- .git
- octofamily

Advice

Pull Requests

If you're hosting your repo on GitHub, you can do something called a pull request.

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/23

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Cursos y Libros de Pr... Git - Book Introducción a GitHub... Así fue: 20 imágenes ... Configurar Git y GitHub... Solicitar una Visa par... ISSUU - Ciencias, siste...

Amazingly, the moment has come when you have to merge your changes from the clean_up branch into the master branch.

Take a deep breath, it's not that scary.

We're already on the master branch, so we just need to tell Git to merge the clean_up branch into it:

[git merge clean_up](#)

```
[clean up 63540fe] Remove all the cats
5 files changed, 5 deletions(-)
delete mode 100644 blue_octocat.txt
delete mode 100644 octocat.txt
delete mode 100644 octofamily/baby_octocat.txt
delete mode 100644 octofamily/momma_octocat.txt
delete mode 100644 red_octocat.txt
Success!

$ git checkout master

Switched to branch 'master'
Success!
$
```

My Octobox Repository

- .git
- octofamily
- blue_octocat.txt

Advice

Merge Conflicts

Merge Conflicts can occur when changes are made to a file at the same time. A lot of

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/24

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Cursos y Libros de Pr... Git - Book Introducción a GitHu... Así fue: 20 imágenes ... Configurar Git y GitH... Solicitar una Visa par... ISSUU - Ciencias, siste...

Congratulations! You just accomplished your first successful bugfix and merge. All that's left to do is clean up after yourself. Since you're done with the `clean_up` branch you don't need it anymore.

You can use `git branch -d <branch name>` to delete a branch. Go ahead and delete the `clean_up` branch now:

`git branch -d clean_up`

```
Updating 3852b4d..ec6888b
Fast-forward
 blue octocat.txt      | 1
 octocat.txt           | 1
 octofamily/baby octocat.txt | 1
 octofamily/momma octocat.txt | 1
 red octocat.txt       | 1
 5 files changed, 5 deletions(-)
 delete mode 100644 blue octocat.txt
 delete mode 100644 octocat.txt
 delete mode 100644 octofamily/baby octocat.txt
 delete mode 100644 octofamily/momma octocat.txt
 delete mode 100644 red octocat.txt
Success!
$
```

My Octobox Repository

- .git
- octofamily

Advice

Force delete

What if you have been working on a feature branch and you decide you really don't want

Code School - Try Git - Mozilla Firefox

Facebook Code School - Try Git

https://try.github.io/levels/1/challenges/25

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here we are, at the last step. I'm proud that you've made it this far, and it's been great learning Git with you. All that's left for you to do now is to push everything you've been working on to your remote repository, and you're done!

`git push`

```
red octocat.txt ----- i
5 files changed, 5 deletions(-)
 delete mode 100644 blue octocat.txt
 delete mode 100644 octocat.txt
 delete mode 100644 octofamily/baby octocat.txt
 delete mode 100644 octofamily/momma octocat.txt
 delete mode 100644 red octocat.txt
Success!
$ git branch -d clean_up

Deleted branch clean_up (was ec6888b).
Success!
$
```

My Octobox Repository

- .git
- octofamily

Advice

Learning more about Git

We only scratched the surface of Git in this course. There is so much more you can do

Code School - Try Git - Mozilla Firefox

FacebookCode School - Try Git

https://try.github.io/levels/1/challenges/25

algorithmo numeros primos

Cursos y Libros de Pr...Git - BookIntroducción a GitHub...Así fue: 20 imágenes ...Configurar Git y GitHub...Solicitar una Visa par...ISSUU - Ciencias, siste...

Great! You now have a true taste of the greatness of Git. You can take a look at the wrap up page for a little more information on Git and GitHub, oh, and of course your badge!

Wrap it all Up

TryGit—1171x310

```
Success!
$ git branch -d clean_up

Deleted branch clean_up (was ec688b).
Success!
$ git push

To https://github.com/try-git/try-git.git
3e78b0f..eealf0d master -> master
Success!
> |
```

My Octobox Repository

.git

octofamily

yellow_octocat.txt

Advice

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