

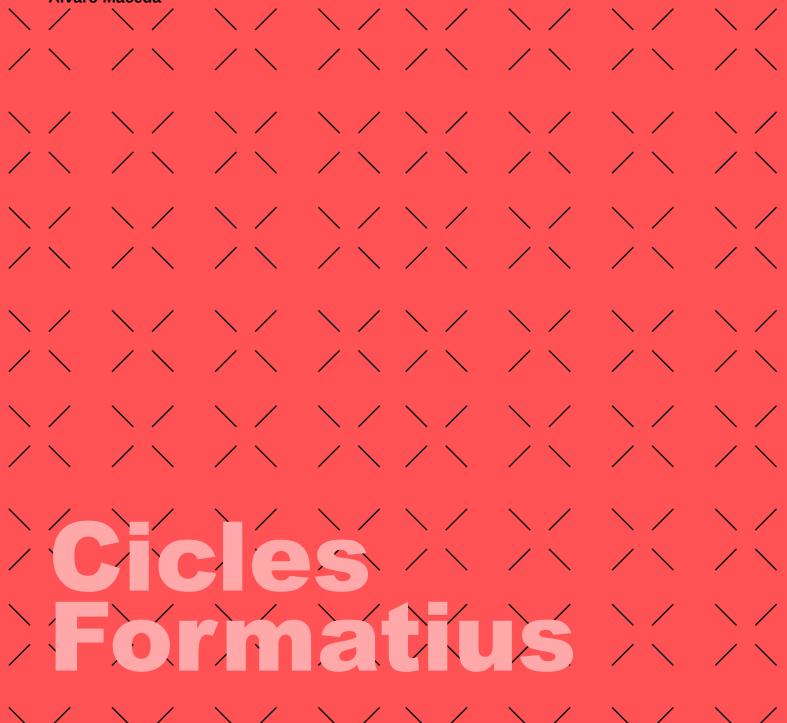
Assessable Task 1st Term

Computer Systems 23/24

Desarrollo de Aplicaciones Web

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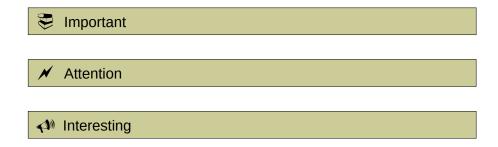


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Nomenclature

Throughout this unit different symbols will be used to distinguish important elements within the content. These symbols are:







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Section a

Section b

3. EXERCISE 3





INSTRUCTIONS TO DELIVER

Follow the next instructions to deliver your solution to this assessable activity:

- The file to deliver must be in PDF format
- The delivered file must be in english.
- The name of it should follow the next format:
 "Surname1_Surname2_Name_CS_1stTerm.pdf" where Surname1 is your first surname, Surname2 is your second surname and Name Is your name.
- The delivered file must have a cover with, at least, your name, surnames and as title it should say "Computer Systems 1st Term Assessable Activity".
- Inside the delivered file remember specifying to which exercise and section you are answering.
- Read thoroughly the statement of each exercise.
- You must write all the commands <u>as text</u>. All the <u>screenshots</u> attached <u>will</u> <u>be removed</u> before grading the exercise.

As a reminder on the general instructions on assessable activities that are specified on the student's guide:

- The delivered solution must be individual and original.
- Any copies or frauds detected will be graded with a 0.
- If there's a suspicion about copies or frauds, the student can be summoned to a revision meeting where the teacher will ask questions to verify the authenticity of the solution.



1.EXERCISE 1

Section a

Using the terminal, go to your home directory and from there create the following directory and files structure in /tmp directory. You must use only one command for each hierarchical level and use relative paths:

```
My Files
| -- Cook Recipes
| -- Salty
| -- Sweet
| -- Doughnut.jpg
| -- Comics
| -- Man of Steel.txt
| -- Wonder Woman.txt
| -- Movies
| -- Superheroes
| -- Comedy
```

Section b

From your personal folder, using absolute paths, perform the following 3 tasks:

- Use a command to create a file called Mac and cheese.txt inside the Cook Recipes/Salty directory and using pipes or redirection, enter "To make macaroni and cheese, you must first buy macaroni and cheese".
- 2. Delete the Sweet directory.
- Now copy the file Man of Steel.txt into the Movies/Superheroes
 directory with the name Man of Steel_copy.txt and enter the text Up
 up and away!.

Section c

Now, you can use absolute or relative paths as you like it. But comment what are you using and perform the following tasks:

- Create a hard link to Man of Steel.txt inside the Comics directory and name it Man of Steel_hard.txt. Create also, a symbolic link to Wonder Woman.txt and place it in Movies/Superheroes with the name Wonder Woman_soft.txt.
- 2. Modify the contents of the file Man of Steel_copy.txt. Are the files Man of Steel.txt and Man of Steel_hard.txt modified? Why?



- 3. If you delete the file Man of Steel.txt, what will happen to Man of Steel_hard.txt and Man of Steel_copy.txt?
- 4. Delete the Comics directory. What happens to the file Wonder Woman_soft.txt?



2.EXERCISE 2

Specify the command/s to achieve the next requirements:

Section a

Create the next users in a **non-interactive way**. Each one must accomplish the next requirements:

- Must have a home folder.
- Their shell must be /bin/sh
- Their password must be their user followed by _password
- The user name is case-sensitive:

The users to create are:

- gru
- kevin
- stuart
- nefario
- agnes
- supermegavillain

Explain the command/s you use for both creating the user and achieving the requirements (home, shell, password) and why you chose that way. Think it thoroughly.

Section b

Only the next groups can exist, specify the command to create them:

- masteroftheuniverse
- minions
- kids
- researchanddevelopment

Given the next folder and files structure (which you don't need to create, because it already exists):

Accomplish the next requirements:



- Gru can access anything anywhere besides from the folder operation_birthday, which cannot see anything (not even listing the files).
- Agnes can only access to operation_birthday and she's the only one able to write inside of it.
- Nefario can access to operation_birthday, but can't delete anything.
- The minions stuart and kevin cannot access anything besides from the folder bananas.
- Nefario should only access to the science folder and should be the only one able to write in that folder.
- The supermegavillain, because of a silly Gru's mistake, can access to the evilplans.

Specify the commands to define the permissions on the folders and file structure and the belongings to each of the groups. Explain why you chose those commands.





3.EXERCISE 3

On a computer with Ubuntu 22.04 installed you have a directory named /user/important_data with important information, and you want to copy the data each day on a different hard disk in case the main system disk fails. The directory is on a ext4 file system.

In the copy, you must preserve the attributes: permissions, timestamps, and ownership.

It will not create historical data: each day, the directory should have the same data as the original directory.

Explain how you would do this. Indicate:

- How you should prepare the system: which commands you would run, which user should run them, and which configuration files you would modify, how and why.
- The command(s) you should run daily for the backup, who should run it and why.