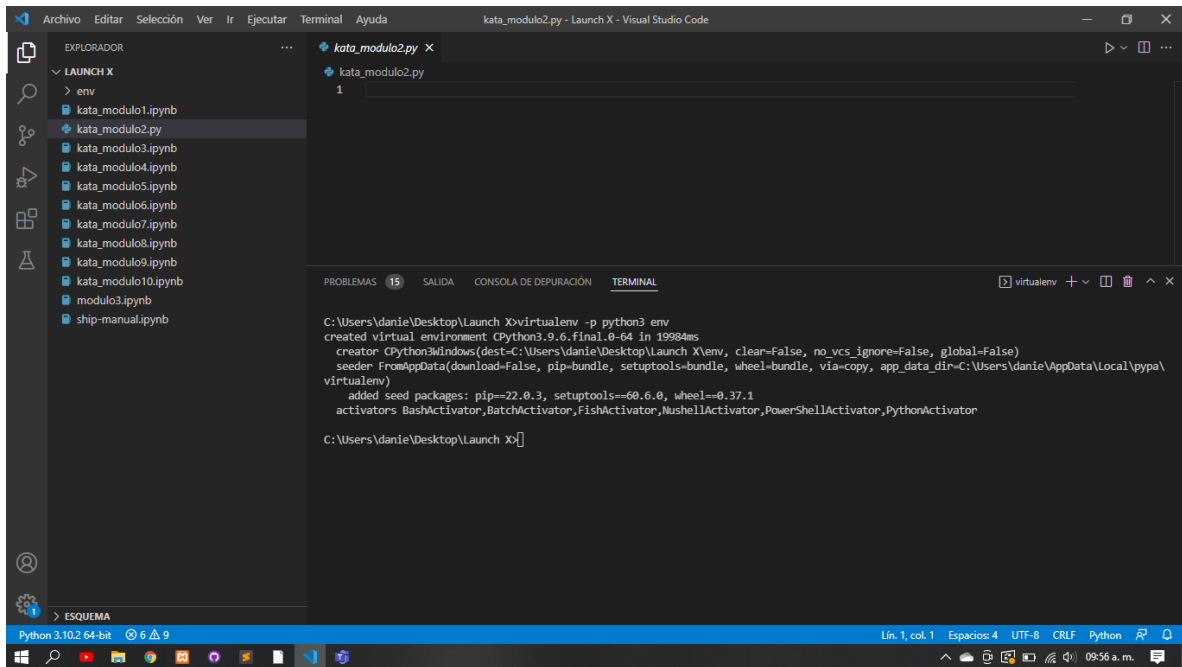


## Se crea el entorno virtual

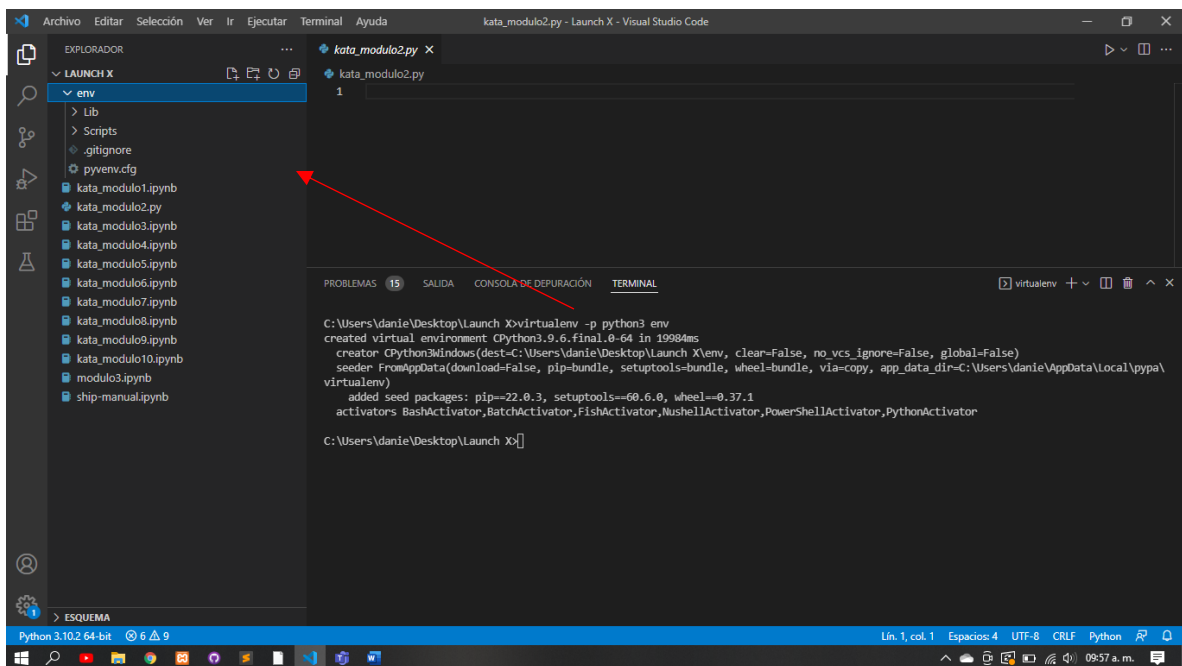


This screenshot shows the Visual Studio Code interface with the 'kata\_modulo2.py' file open. The Explorer sidebar on the left shows a folder named 'LAUNCH X' containing several IPYNB files, with 'kata\_modulo2.py' selected. The Terminal panel at the bottom displays the output of the command 'virtualenv -p python3 env', showing the successful creation of a virtual environment named 'env' at 'C:\Users\danie\Desktop\Launch X\env'. The status bar at the bottom indicates 'Python 3.10.2 64-bit'.

```
1
```

```
C:\Users\danie\Desktop\Launch X>virtualenv -p python3 env
created virtual environment CPython3.9.6.final.0-64 in 19984ms
creator CPythonWindows(dest=C:\Users\danie\Desktop\Launch X\env, clear=False, no_vcs_ignore=False, global=False)
seeders FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\danie\AppData\Local\pypa\virtualenv)
added seed packages: pip==22.0.3, setuptools==60.6.0, wheel==0.37.1
activators BashActivator,BatchActivator,FishActivator,MsShellActivator,PowerShellActivator,PythonActivator

C:\Users\danie\Desktop\Launch X>
```



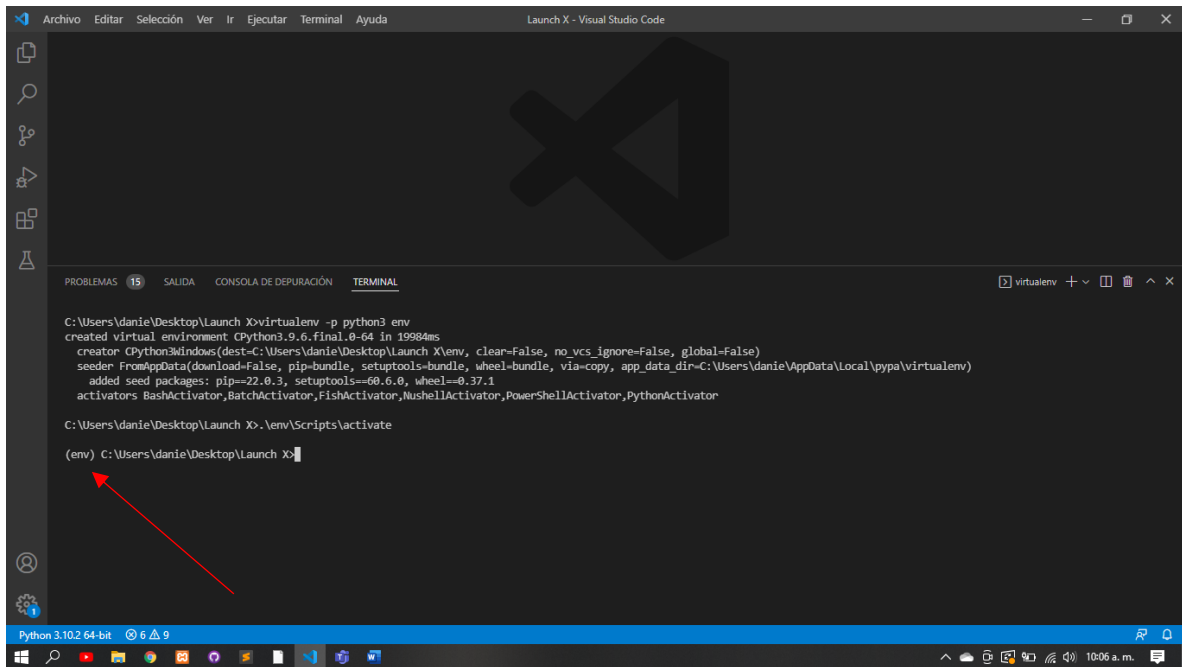
This screenshot shows the same Visual Studio Code interface, but the Explorer sidebar now shows the expanded contents of the 'env' folder. A red arrow points to the 'Lib' subfolder, which contains the virtual environment's site-packages. The Terminal panel shows the same output as the previous screenshot, confirming the successful creation of the virtual environment. The status bar at the bottom indicates 'Python 3.10.2 64-bit'.

```
1
```

```
C:\Users\danie\Desktop\Launch X>virtualenv -p python3 env
created virtual environment CPython3.9.6.final.0-64 in 19984ms
creator CPythonWindows(dest=C:\Users\danie\Desktop\Launch X\env, clear=False, no_vcs_ignore=False, global=False)
seeders FromAppData(download=False, pip=bundle, setuptools=bundle, wheel=bundle, via=copy, app_data_dir=C:\Users\danie\AppData\Local\pypa\virtualenv)
added seed packages: pip==22.0.3, setuptools==60.6.0, wheel==0.37.1
activators BashActivator,BatchActivator,FishActivator,MsShellActivator,PowerShellActivator,PythonActivator

C:\Users\danie\Desktop\Launch X>
```

## Entro al entorno virtual



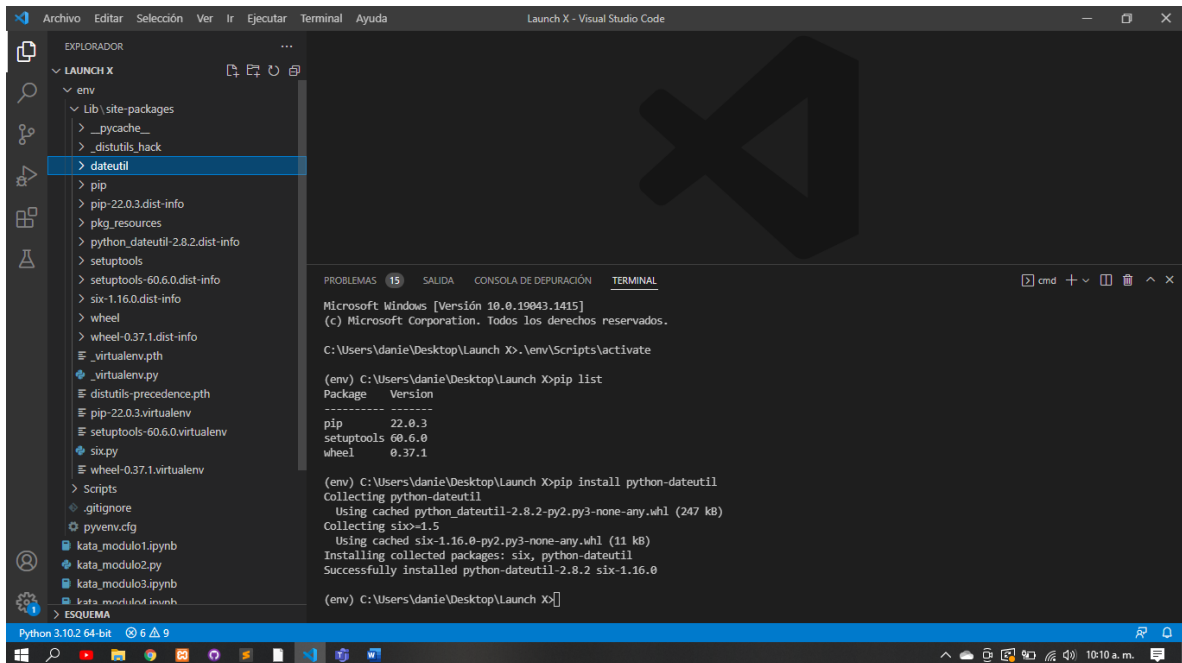
The screenshot shows the Visual Studio Code interface with the terminal panel active. The terminal output shows the creation of a virtual environment named 'env' using 'python3.9.6.final.0-64'. The environment is activated, and the prompt changes to '(env) C:\Users\danie\Desktop\Launch X>'. A red arrow points to the prompt.

```
C:\Users\danie\Desktop\Launch X>virtualenv -p python3 env
created virtual environment CPython3.9.6.final.0-64 in 19984ms
creator Python3Windows(dest=C:\Users\danie\Desktop\Launch X\env, clear=False, no_vcs_ignore=False, global=False)
seeder FromAppData(download=False, pip-bundle, setuptools-bundle, wheel-bundle, via=copy, app_data_dir=C:\Users\danie\AppData\Local\pypa\virtualenv)
added seed packages: pip==22.0.3, setuptools==60.6.0, wheel==0.37.1
activators BashActivator,BatchActivator,FishActivator,PowerShellActivator,PythonActivator

C:\Users\danie\Desktop\Launch X>.env\Scripts\activate

(env) C:\Users\danie\Desktop\Launch X>
```

Con el comando `pip install python-dateutil`, instalo esa librería



The screenshot shows the Visual Studio Code interface with the Explorer panel on the left and the terminal panel on the right. The Explorer panel shows the file structure of the virtual environment, including the 'dateutil' package. The terminal panel shows the command 'pip install python-dateutil' being executed, and the output shows the successful installation of the package.

```
Microsoft Windows [Versión 10.0.19043.1415]
(c) Microsoft Corporation. Todos los derechos reservados.

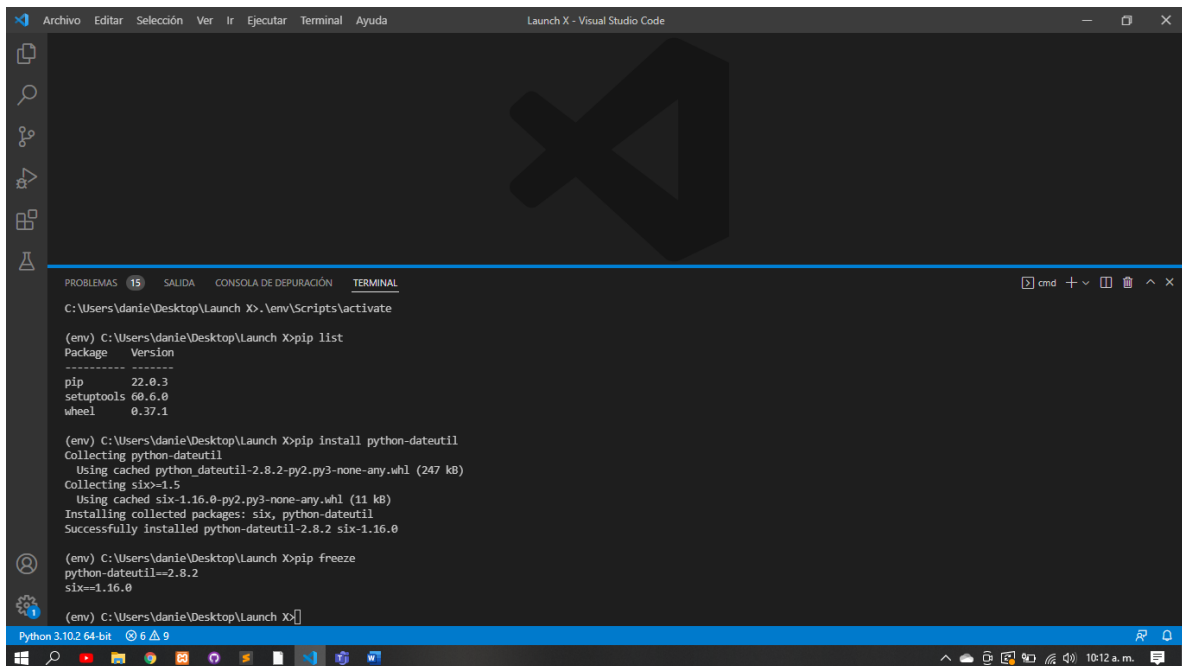
C:\Users\danie\Desktop\Launch X>.env\Scripts\activate

(env) C:\Users\danie\Desktop\Launch X>pip list
Package      Version
-----
pip          22.0.3
setuptools   60.6.0
wheel        0.37.1

(env) C:\Users\danie\Desktop\Launch X>pip install python-dateutil
Collecting python-dateutil
  Using cached python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
Collecting six>=1.5
  Using cached six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: six, python-dateutil
Successfully installed python-dateutil-2.8.2 six-1.16.0

(env) C:\Users\danie\Desktop\Launch X>
```

Con el comando `pip freeze` veo los paquetes instalados



The screenshot shows the Visual Studio Code interface with the terminal panel active. The terminal output shows the following commands and results:

```
C:\Users\danie\Desktop\Launch X>.env\Scripts\activate

(env) C:\Users\danie\Desktop\Launch X>pip list
Package      Version
-----
pip          22.0.3
setuptools   68.6.0
wheel        0.37.1

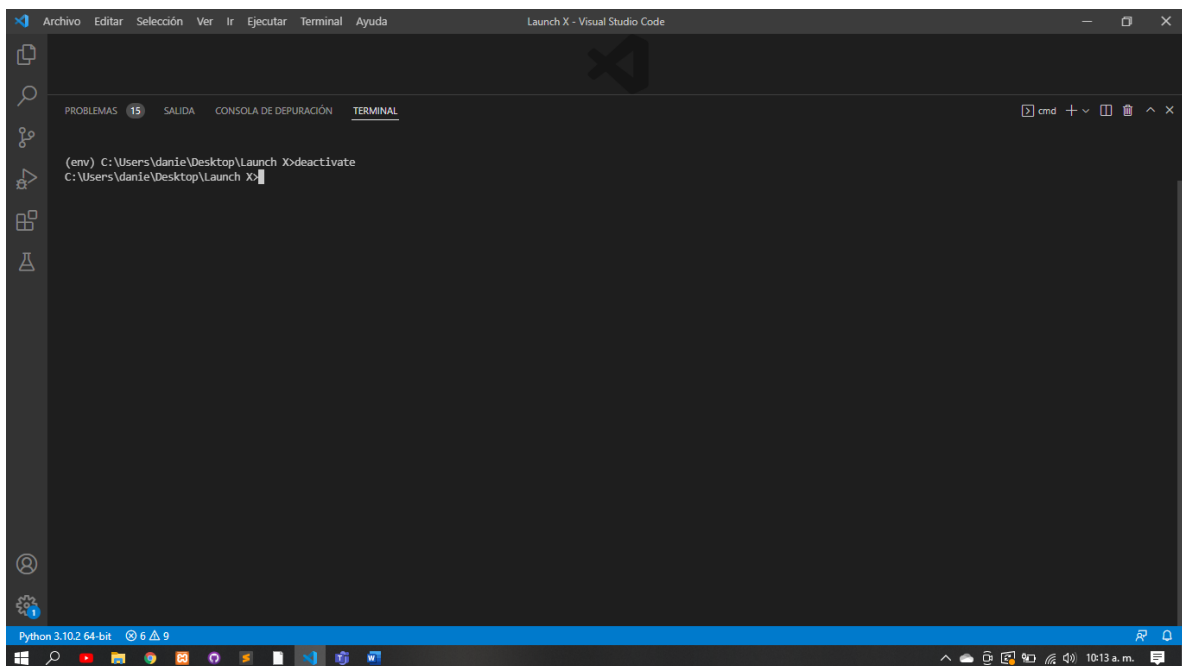
(env) C:\Users\danie\Desktop\Launch X>pip install python-dateutil
Collecting python-dateutil
  Using cached python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
Collecting six>=1.5
  Using cached six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: six, python-dateutil
Successfully installed python-dateutil-2.8.2 six-1.16.0

(env) C:\Users\danie\Desktop\Launch X>pip freeze
python-dateutil==2.8.2
six==1.16.0

(env) C:\Users\danie\Desktop\Launch X>
```

The status bar at the bottom indicates the environment is Python 3.10.2 64-bit.

Salgo del entorno virtual con deactivate

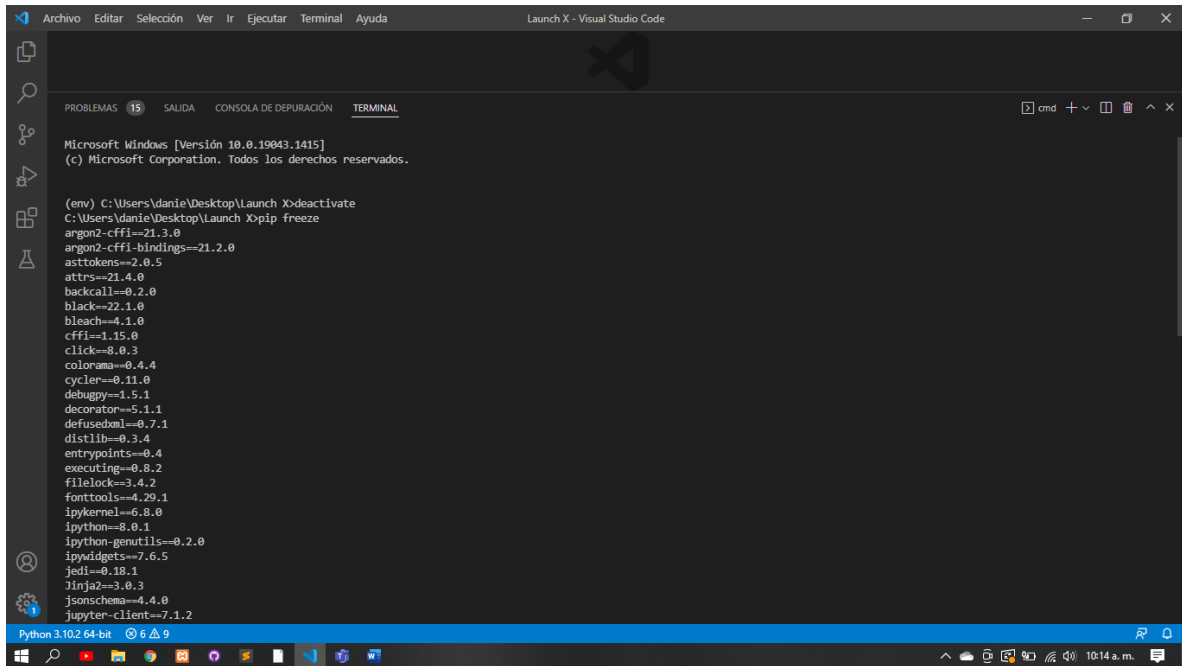


The screenshot shows the Visual Studio Code interface with the terminal panel active. The terminal output shows the following commands and results:

```
(env) C:\Users\danie\Desktop\Launch X>deactivate
C:\Users\danie\Desktop\Launch X>
```

The status bar at the bottom indicates the environment is Python 3.10.2 64-bit.

Ejecuto el comando pip freeze , sale la lista de todos los paquetes instalados que no son en entorno virtual



Archivo Editar Selección Ver Ir Ejecutar Terminal Ayuda Launch X - Visual Studio Code

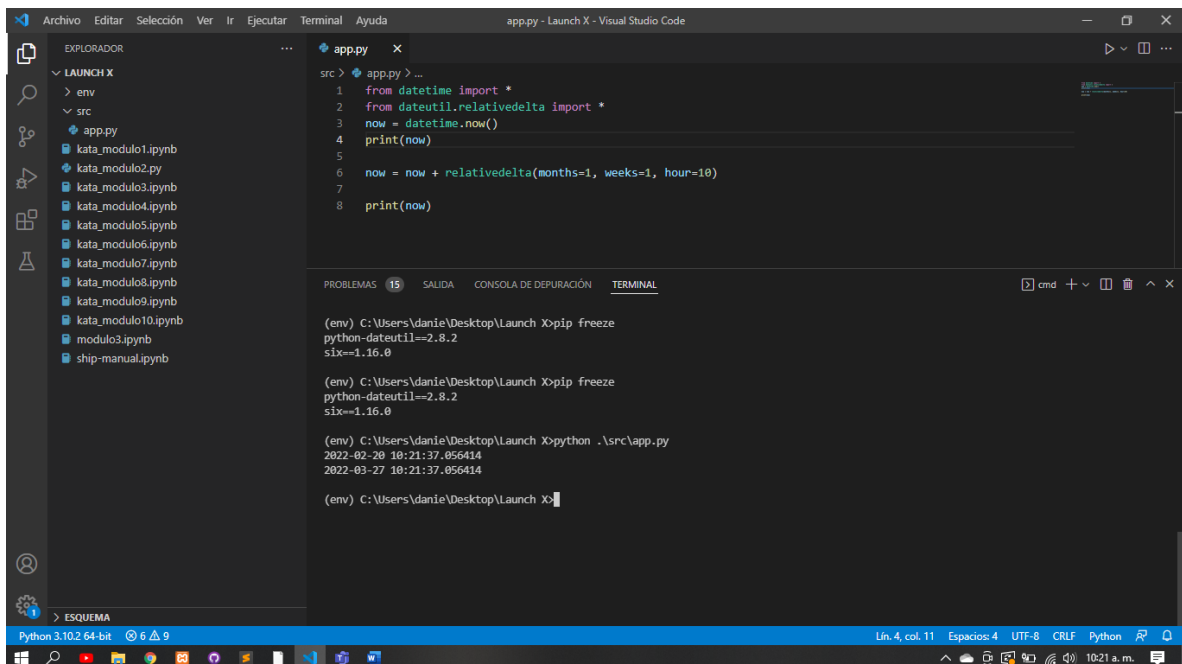
PROBLEMAS 15 SALIDA CONSOLA DE DEPURACIÓN TERMINAL

Microsoft Windows [Versión 10.0.19043.1415]  
(c) Microsoft Corporation. Todos los derechos reservados.

```
(env) C:\Users\danie\Desktop\Launch X>deactivate
C:\Users\danie\Desktop\Launch X>pip freeze
argon2-cffi==21.3.0
argon2-cffi-bindings==21.2.0
asttokens==2.0.5
attrs==21.4.0
backcall==0.2.0
black==22.1.0
bleach==4.1.0
cffi==1.15.0
click==8.0.3
colorama==0.4.4
cyclern==0.11.0
debugpy==1.5.1
decorator==5.1.1
defusedxml==0.7.1
distlib==0.3.4
entrypoints==0.4
executing==0.8.2
filelock==3.4.2
fonttools==4.29.1
ipykernel==6.8.0
ipython==8.0.1
ipython-genutils==0.2.0
ipywidgets==7.6.5
jedi==0.18.1
Jinja2==3.0.3
jsonschema==4.4.0
jupyter-client==7.1.2
```

Python 3.10.2 64-bit 6 9

Creo el archivo app.py dentro de la carpeta src , y lo ejecuto desde el entorno virtual con el comando Python .\src\app.py



Archivo Editar Selección Ver Ir Ejecutar Terminal Ayuda app.py - Launch X - Visual Studio Code

EXPLORADOR

- LAUNCH X
  - env
  - src
    - app.py
    - kata\_modulo1.ipynb
    - kata\_modulo2.py
    - kata\_modulo3.ipynb
    - kata\_modulo4.ipynb
    - kata\_modulo5.ipynb
    - kata\_modulo6.ipynb
    - kata\_modulo7.ipynb
    - kata\_modulo8.ipynb
    - kata\_modulo9.ipynb
    - kata\_modulo10.ipynb
    - modulo3.ipynb
    - ship-manual.ipynb

app.py

```
src > app.py > ...
1 from datetime import *
2 from dateutil.relativedelta import *
3 now = datetime.now()
4 print(now)
5
6 now = now + relativedelta(months=1, weeks=1, hour=10)
7
8 print(now)
```

PROBLEMAS 15 SALIDA CONSOLA DE DEPURACIÓN TERMINAL

```
(env) C:\Users\danie\Desktop\Launch X>pip freeze
python-dateutil==2.8.2
six==1.16.0

(env) C:\Users\danie\Desktop\Launch X>pip freeze
python-dateutil==2.8.2
six==1.16.0

(env) C:\Users\danie\Desktop\Launch X>python .\src\app.py
2022-02-20 10:21:37.056414
2022-03-27 10:21:37.056414

(env) C:\Users\danie\Desktop\Launch X>
```

Python 3.10.2 64-bit 6 9 Lin. 4, col. 11 Espacios: 4 UTF-8 CRLF Python