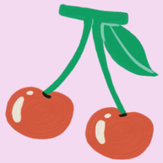
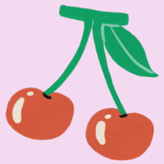
Let's Learn

AUTOMATION





WITH TANU SAKARAY

What is automation?

Automation is when you get a task done by a system or tool instead of doing it yourself.

Think: ‘I don’t want to click this button 47 times, so I’m going to make something else do it for me.

Would you rather?

Spend 30 seconds to manually do a task?

OR

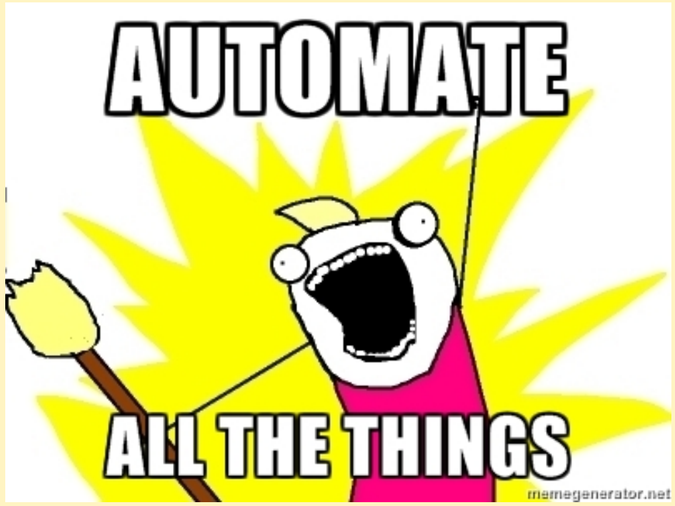
Take an hour building a robot to do it forever...or until it breaks I guess

Reasons to automate

- You want more time
- You want less human error
- You're tired of doing the same thing over and over again, like emailing yourself reminders or clicking 'next' on a multi-page form.

(my (non-official) rule is: if you've done it three times and it was annoying every time, automate it)

Types of Tools Used in Automation

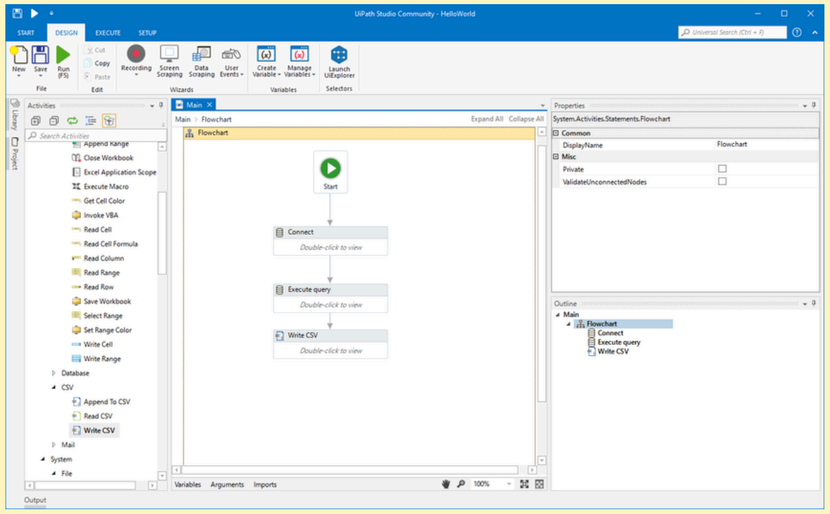


Selenium

- An open-source tool that lets you automate web browsers using code.
- Best for: websites, clicking buttons, scraping, filling forms.
- Ex: Auto-Google “is cereal a soup”.

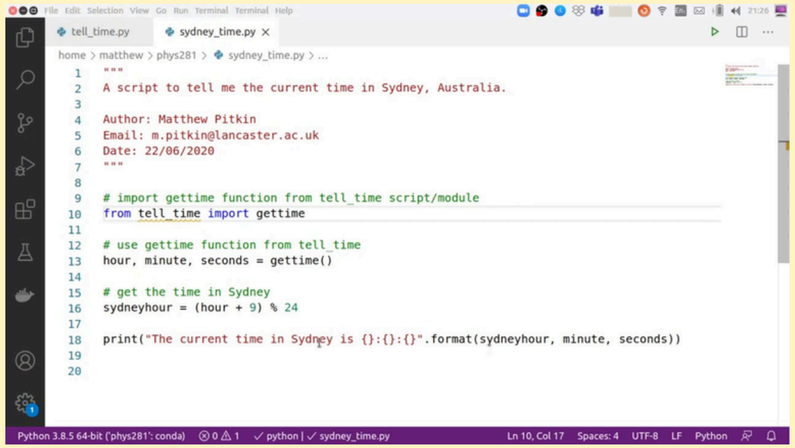
UiPath

- UiPath lets you build automation with drag-and-drop blocks so you don’t need to code. Think of it like Scratch for adults.
- Best for: desktop apps, Excel, Outlook, clicking through GUI aspects.
- Ex: Copy invoice data from PDFs to Excel, send a slack message to your boss



Python Script

- a .py file with Python code. When you run it, Python executes everything inside, line by line.
- Best for: organizing files, writing reminders, scheduling local tasks.
- Ex: Rename 200 screenshots or schedule daily inspirational alerts to help you get through the day.



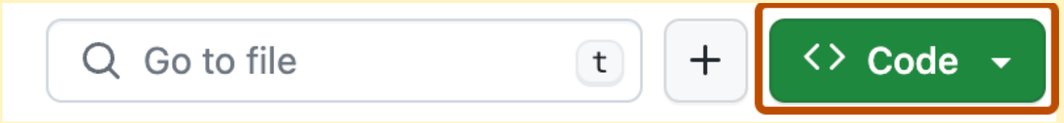
Activity: Let’s automate renaming files

Using Python, write a script that:

- **Renames all files in the folder you're given**
- **Follows a naming theme you make up**

Github

- Go to this link: https://github.com/ukansas-wic/automation
- Click the big green “code” button:



- Click “Download ZIP”

- Unzip the file and open it in your terminal, it should be called “automation-main”

```
import os
```

os module lets Python talk to your computer’s operating system

```
folder = "files_to_be_renamed"
```

You're telling Python where the files that need to be renamed are

```
version_names = [
    "v1",
    "v1_final",
    "v1_final_FINAL",
    "v1_final_FINAL_for_real_THIS_time",
    "v1_final_FINAL_for_real_THIS_time_LAST_EDIT",
]
```

Make a list of what you want to rename the files (you can choose any names you want, I just chose these for fun!)

```
files = os.listdir(folder)
```

This grabs all the file names from the folder and stores them in a list called files

```
for i, filename in enumerate(files):
```

Loop through each file in the folder. i is the file number and filename is the name of the file.

```
base, ext = os.path.splitext(filename)
```

This splits the filename into 2 parts: base (the name of the file without extension), ext (the extension like .jpg, .png, .txt, etc)

```
try:
    new_base = f"project_{version_names[i]}" 
```

Try to use a name from the version names list

```
except IndexError:
    new_base = f"project_backup_{i+1}"
```

If we run out of version names, we can fall back to something like project_backup_6, project_backup_7

```
old_path = os.path.join(folder, filename)
new_filename = f"{new_base}{ext}"
new_path = os.path.join(folder, new_filename)
```

1) combines the folder and filename

2) making a new filename

3) put folder and new filename together

```
os.rename(old_path, new_path)
```

This does the actual renaming!

```
print(f"Renamed '{filename}' → '{new_filename}'")
```

Print out what just happened.