1. Installing WSL (To be followed by Windows users only)
Open powershell → Window + R
Type → `cmd`
Click → Enter
Type following command to install WSL → wsl --install

```
C:\Users\rajan>wsl --install
Downloading: Ubuntu
Installing: Ubuntu
Distribution successfully installed. It can be launched via 'wsl.exe -d Ubuntu'
Launching Ubuntu...
Provisioning the new WSL instance Ubuntu
This might take a while...
Create a default Unix user account: rajan
New password:
Retype new password:
passwd: password updated successfully
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

rajan@Rajan:/mnt/c/Users/rajan$
```

To set up the WSL account:
For some users, the system will prompt for a username and password during installation, while for others, the prompt will appear the first time WSL is launched.

Note: When entering a password in the terminal, the characters will not be visible as you type. The input is still being registered, so make sure you type carefully.

2. Launch WSL (To be followed by Windows users only)
- Search WSL from Start Menu Search (Press Windows key and start typing).

- Click to Launch

3. Launch macOS Terminal (To be followed by macOS users only)
- Search Terminal using Spotlight (Press Command + Space and start typing).

- Click to Launch

Note: All subsequent steps must be carried out in the WSL terminal or the macOS terminal, and not in Windows PowerShell.

4. Installing Conda **(Both Windows and MacOS users)**
- Google Search → Miniconda Installation.
- Go to first page that open (https://www.anaconda.com/docs/getting-started/miniconda/install)
- Go to the "Basic install instructions" section → macOS/Linux installation.
- Click on "macOS terminal installer" for MacOS and "Linux terminal installer" for WSL users.
- Follow installation instructions.

Note: During Conda installation, a prompt will appear to display the license terms, keep pressing **Enter** to read through them. When asked, type **yes** to proceed. Finally, press **Enter** to accept the default installation path.

- Close the current WSL/Terminal and open a new terminal **(base)** should be visible.

5. Create myenv environment (git, python, biopython) **(Both Windows and MacOS users)**

```
conda create -n myenv -c bioconda -c conda-forge -c default python biopython git
```

6. Activating myenv environment **(Both Windows and MacOS users)**

```
conda activate myenv
```

7. Download the FASTA record **(Both Windows and MacOS users)**

Unix commands used:
- mkdir
- cat
- head
- ls
- cd

8. Vibe Coding Tasks **(Both Windows and MacOS users)**

a. Biopython seq analysis
   i. create Seq object,
   ii. use transcribe() and translate() functions
b. Vibe Coding Tasks
   i. Python script to print sequence length (.fa) FASTA file.
   ii. Python script to print a dictionary of unique k-mer where k-mers are keys and counts are values.
   iii. Python script to parse a multi-Fasta (.mfa) file and print the number of FASTA records.

9. Push on GitHub repo (Both Windows and MacOS users)

Git setup commands (to be done once only):

```
git config --global user.name "username"
git config --global user.email "email"
```

Linux commands:

- mv
- cp

Git commands:

- clone
- status
- add
- push