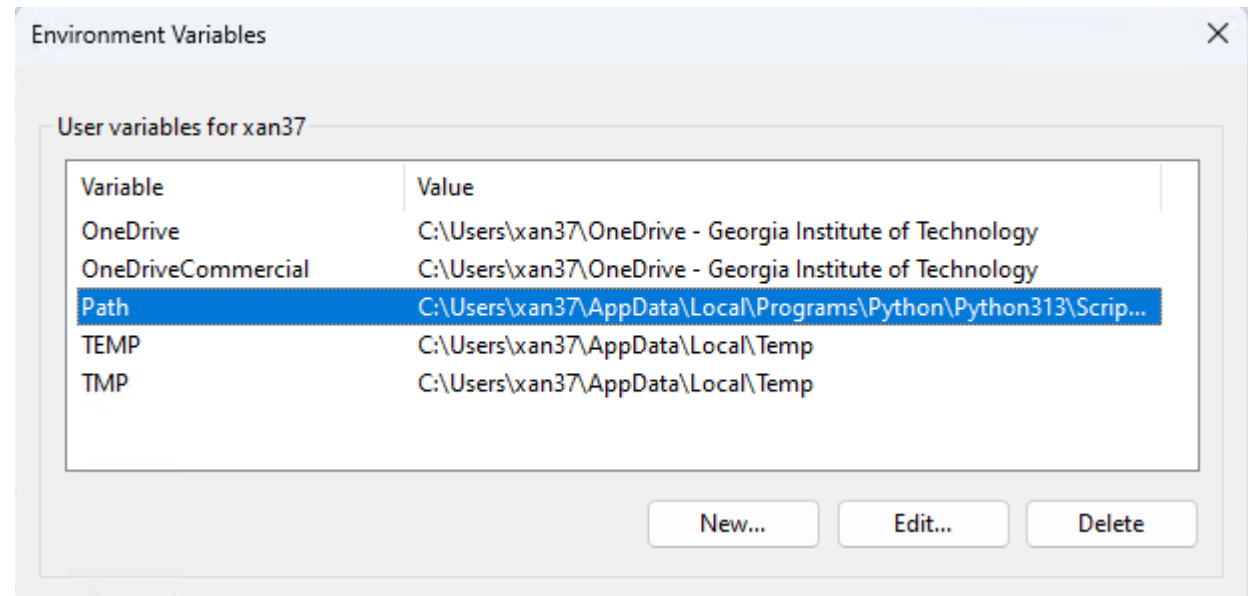
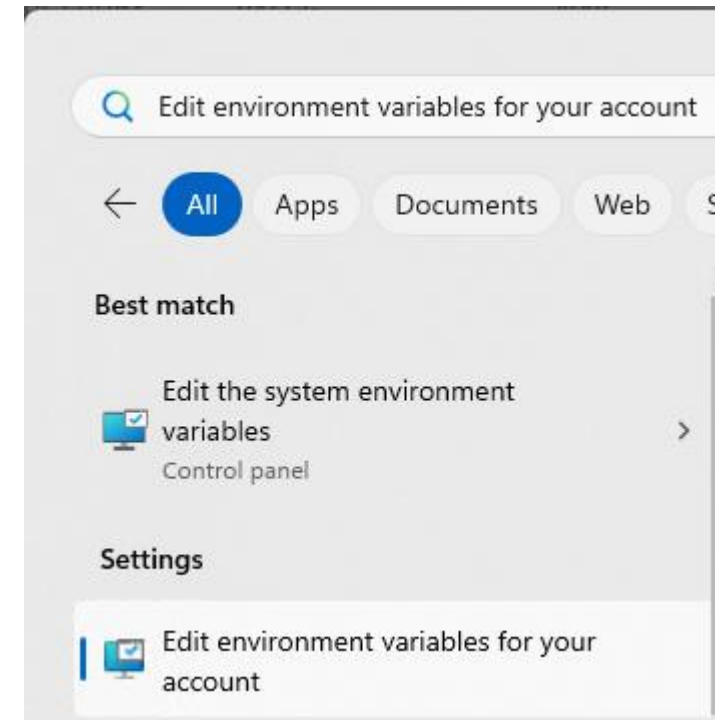


# 1. Download Tisean

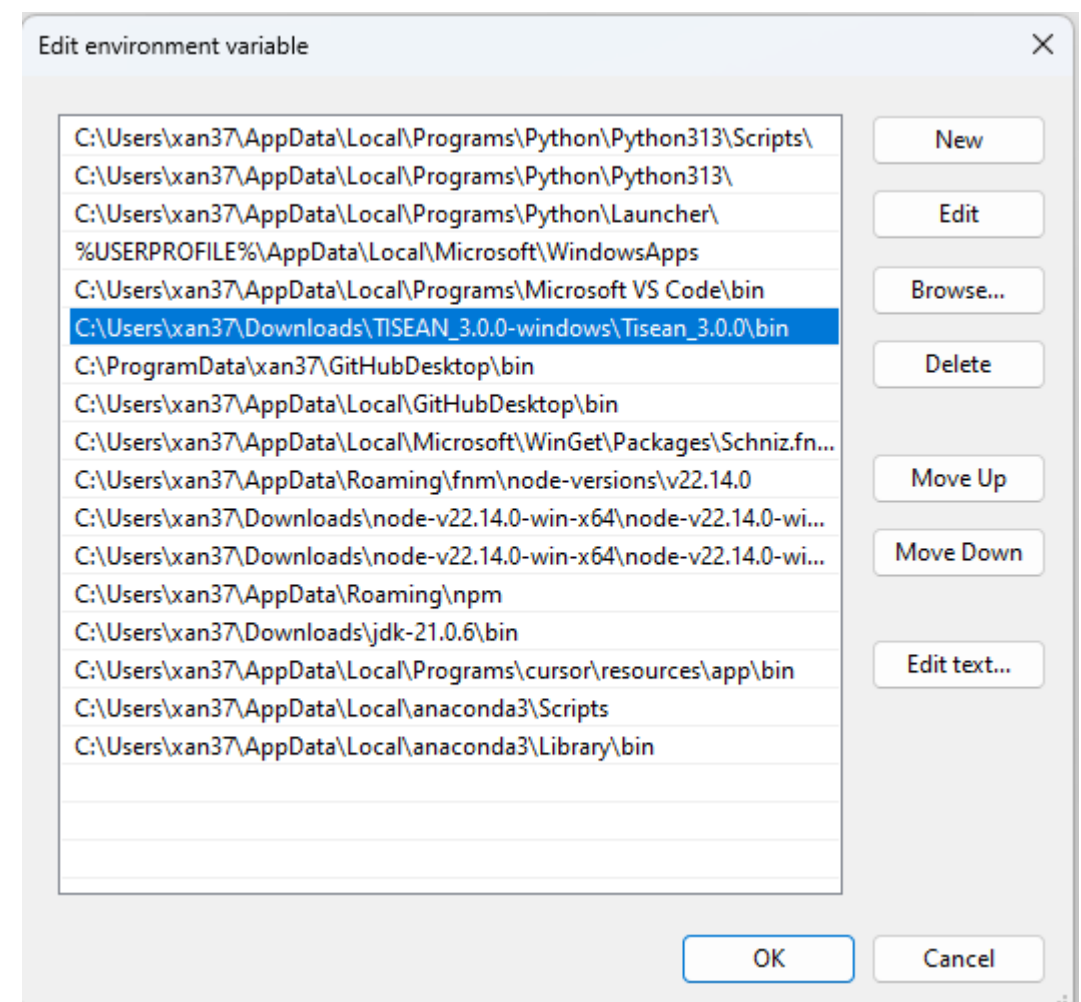
- [https://www.pks.mpg.de/tisean/TISEAN\\_3.0.0-windows.zip](https://www.pks.mpg.de/tisean/TISEAN_3.0.0-windows.zip)
- And decompress it

## 2. Add Tisean to PATH

- Search PATH:
- If personal PC, choose first one
- If school PC, choose second one
- Double click path



- Add Tisean bin folder into it



- Now you can call Tisean function in Windows terminal

```
(base) PS C:\Users\11061> lyap_k

TISEAN 3.0.0 (C) R. Hegger, H. Kantz, T. Schreiber (1998–2007)

D:\Downloads\TISEAN_3.0.0-windows\Tisean_3.0.0\bin\lyap_k.exe: Estimates the maximal Lyapunov exponent using the Kantz
algorithm

Reading input from stdin!
|
```

# 3. Automate it in Python

- `from pathlib import Path`
- 
- `with open("output.dat", "w") as f:`
- `for val in voltage:`
- `f.write(f"{val}\n")`
- 
- `proc = subprocess.Popen(`
- `["lyap_k", "output.dat", "-M3", "-m3"],`
- `stdout=subprocess.PIPE,`
- `stderr=subprocess.STDOUT,`
- `text=True`
- `)`
- 
- `for line in proc.stdout:`
- `print(line, end="") # prints each line as lyap_k produces it`