TEST CASES:

Login / register :

* Set BASE\_URL to the running API (default [http://localhost:8001](vscode-file://vscode-app/c:/Users/ASUS/AppData/Local/Programs/Microsoft%20VS%20Code/resources/app/out/vs/code/electron-browser/workbench/workbench.html)).
* Define endpoints:
  + REGISTER\_ENDPOINT = BASE\_URL + "/api/auth/register"
  + LOGIN\_ENDPOINT = BASE\_URL + "/api/auth/login"
* **Helpers:**
  + \_generate\_user():
    - create uuid suffix
    - return dict { "email", "password", "name" }
  + \_json\_or\_empty(resp):
    - try resp.json() else return {}
  + \_has\_any\_key(d, keys): return any key in dict
* **Tests to build:**
  + test\_register\_success:
    - create user
    - POST to REGISTER\_ENDPOINT with user JSON
    - assert 2xx status
    - parse JSON and assert presence of at least one of ["id","email","token","access\_token","user"]
  + test\_register\_duplicate\_fails:
    - create user
    - POST to register once (allow success)
    - POST to register same user again
    - assert second response indicates failure (status >=400)
    - parse JSON and optionally check for error keys or messages
  + test\_login\_success:
    - create user
    - register user
    - POST to LOGIN\_ENDPOINT with email/password
    - assert 2xx status
    - parse JSON and assert presence of ["access\_token","token","user","id","refresh\_token"]
  + test\_login\_wrong\_password\_fails:
    - create user
    - register user
    - POST to LOGIN\_ENDPOINT with correct email but wrong password
    - assert status >=400
    - parse JSON and optionally check error message
  + test\_login\_nonexistent\_user\_fails:
    - generate an email that was never registered
    - POST to LOGIN\_ENDPOINT with that email and a password
    - assert status >=400
* **Implementation notes:**
  + Use requests with timeout
  + Keep assertions tolerant to API variations
  + Tests are pytest-style functions; file will be named python-services/test\_.env per request (note: test runners may not auto-discover .env files)
  + Print minimal debug info for failing runs