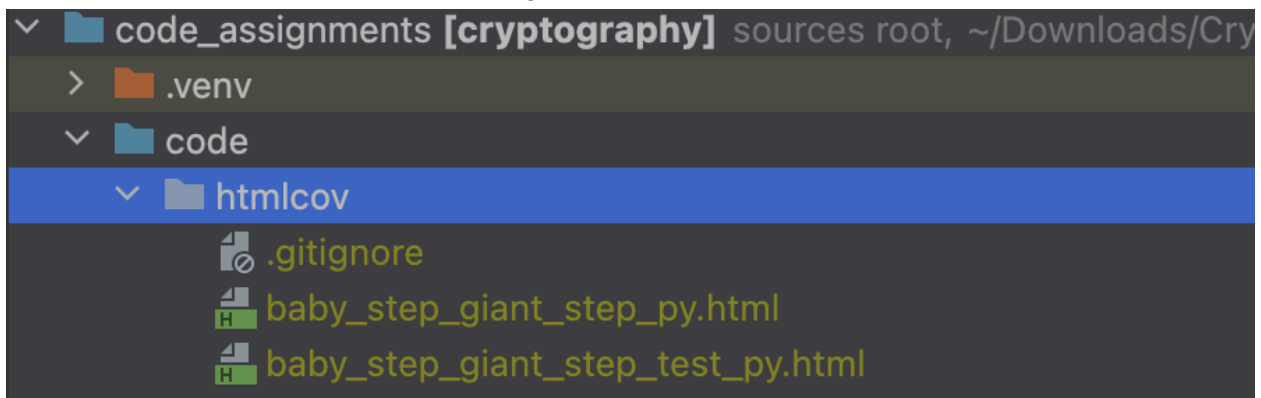# User Manual

General Testing Report

Open test_coverage_report.pdf to find out the line coverage status of all the tests.
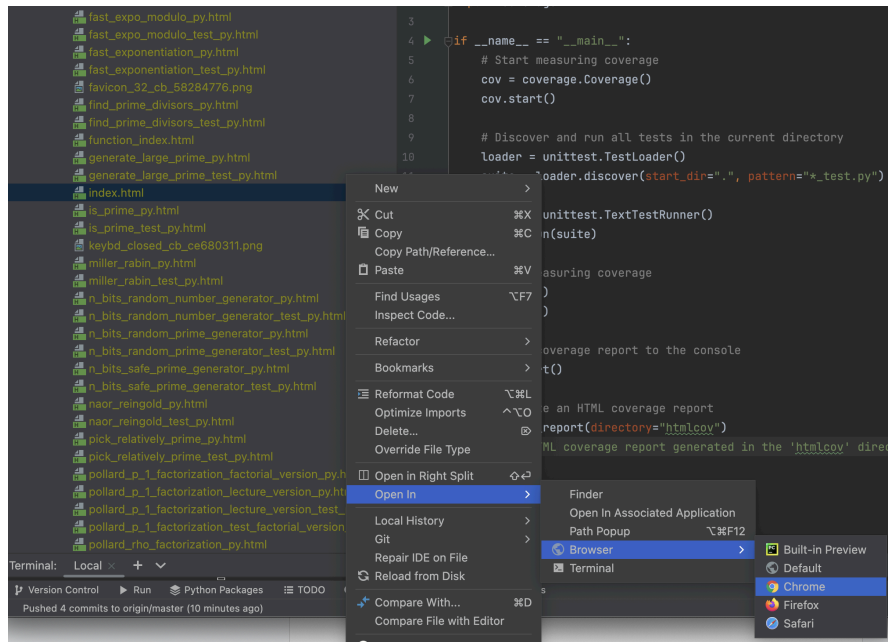
Run All the Tests at Once

1 To run all the test modules in the project, run the following module.

2 After that, a more detailed test coverage report can be found in **htmlcov** folder.

3 follow the following path to open the test coverage report **index.html.**

RSA Related

Encrypt: use `rsa_decrypt(private_key,ciphertext):` in rsa_without_padding.py

Decrypt: use `rsa_enrypt(public_key, plaintext)` in rsa_without_padding.py

Break: use `break_rsa_with_pollard_rho(public_key, ciphertext):` in break_rsa.py

All necessary helper functions can be found in the same module.

EL Gamal Related

Encrypt: use `el_gamal_encrypt(message, b_to_power_of_l, r,prime)` in el_gamal.py

Decrypt: use `el_gamal_decrypt(cipher_text, brl_inverse,prime):`
in el_gamal.py

Break: use `break_el_gamal(cipher_text, p,b, b_to_power_of_r,b_to_power_of_l):`
in break_el_gamal.py

All necessary helper functions can be found in the same module.