Exercise 09: *sSDT* Protocol Checkers

Objective: *Introduction to the concept of protocol checkers as parallel coroutines to the simulation.*

Task: *Implementation of protocol checkers to ensure that the uVC is behaving according to the protocol specifications.*

The checkers should be implemented as Python coroutines, which are running in parallel with the other processes of the simulation. Follow the implementation steps as follows:

1. Locate the file `uvc_ssdt_interface_assertions`, inside the folder `<ROOT>/sat_filter/src/tb/uvc/ssdt/src`.
2. Add the protocol checkers inside this file. Refer to section 3 in the PDF: edu4chip_exercise_general.pdf for the requirement (PR1-PR3), the protocol has to follow.
3. Open the file `<ROOT>/sat_filter/src/tb/sat_filter_tb_base_test.py`, and:
   - Connect the DUT input signals (`clk, rst, in_data, in_valid`) to the `ssdt_interface_assert_check()` class.
   - Start the checking coroutine in the `run_phase` of the test.
   - Assert the `passed` attribute of the checker instance in the `report_phase` of the test.
4. Repeat the same process for the DUT output signals.