Subtract With Carry Engine Correction Proposal

Visual inspection of various features of the framework

1   Subtract With Carry

The subtract with carry engine has the particularity that the states can be degenerated. More concretely, this means that there can be 2 different internal states that are actually different but provide the same numbers. This could be interpreted as the fact that these internal states are over-parametrised. This is problematic since in some cases, 2 subtract with carry instances (rng1 and rng2) can return the same numbers while having (rng1 != rng2).

We could consider that the "correct" internal state could be the one that the engine has after a full cycle has been generated. And example of this problem is shown in this test, where 2 subtract with carry isntances are not equal despite generating the same numbers.