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xxHash32 Project - Assumptions

1. Input is assumed to be entered from left to right. I.e let the input be the binary string 0x FADE DECA DEFA CADE BB which consists of 2 words and 2 bytes, (18 bytes), the user would input:
   din <= 0xFADEDECA, din_valid_bytes <= 1111,
   din <= 0xDEFACADE, din_valid_bytes <= 1111,
   din <= 0xBB-- ---- din valid_bytes <= 1000.
2. din_valid_bytes is assumed/expected to be 1111 for all inputs except when din_in_last = 1.
3. din_valid_bytes is assumed to be only 1111,1110, 1100,1000. This assumption is made because input is fed from left to right, and valid bytes are not expected to have invalid bytes between eachother.
4. din_valid is assumed to go high as soon as a valid input is present at din and assumed to remain high as long as that same valid input is still present at din, it is assumed to go low as soon as the input at din is no longer valid or din_in_last goes high.
5. din_in_last is assumed to go high as soon as the last input is present at din, and it is assumed to remain high for as long as the unit is processing, it may be cleared once dout_valid is high.
6. Since no input port is available for the seed, it is assumed to be 0. The whole design is done with constants where the value of the seed is 0.
7. Input data is only provided when din_ready is high.
8. dout_ready is assumed to only go high after dout_valid is high, output is expected to completely consumed 1 cycle after dout_ready goes high and dout_ready should be clear. I.e dout_ready is assumed to go high only for one cycle.

   Anything that does not follow these assumptions has not been tested for and will cause unexpected behavior.