

How Flags are updated by DP instructions

The DP instructions update the flags if S bit is set. For compare and test instructions {cmp, cmn, tst, teq}, S is always 1.

Flag updation by arithmetic instructions {sub, rsb, add, adc, sbc, rsc, cmp, cmn}

- V flag is set if an overflow occurs into bit 31 of the result
- C flag is set to the carry out of bit 31 of the ALU
- Z flag is set if and only if the result is all zeros
- N flag is set to the logical value of bit 31 of the result

Flag updation by logical instructions {and, eor, tst, teq, orr, mov, bic, mvn}

- V flag is unaffected
- C flag is set to the carry out from the shifter (or preserved when the shift amount is 0)
- Z flag is set if and only if the result is all zeros
- N flag is set to the logical value of bit 31 of the result