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A17MB0220

No.
Date

Unsigned char R3 = 0xB6;
Signed char R4 = 0x9A;

R3 : 1011 0110 (182)
R4 : 1001 1010
0110 0110 ↓ 2's complement (-102)

- R3 = R3 | R4
  - 1011 0110
    1001 1010 |
    1011 1110 (190)

- R4 = R4 << 2.
  - 1001 1010 ⇒ 0110 1000 (104)

- R3 = R3 - R4
  - 1011 1110
    0110 1000
    0101 0110 (86)

- Check Odd or even
  IF LSB = 1 [Odd]
  IF LSB = 0 [even]

R3 = 0101 0110
0000 0001 &
0000 0000 → even number.

Date

- Check if H Flag is Set [0010 0000]
  ITHS VNZC
  ↳ 0101 0110
  0010 0000 & ((R3 & 0x20) == 0x20)!
  0010 0000 Not Set (clear)

- Check if S Flag is clear [0001 0000]
  ↳ 0101 0110
  0001 0000 & ((R3 & 0x10) == 0x0)!
  0001 0000 Set.

- Check if V Flag is Set. [0000 1000]
  ↳ 0101 0110
  0000 1000 & ((R3 & 0x8) == 0x8)!
  0000 0000 Not Set (clear)

- Check if N Flag is clear [0000 0100]
  ↳ 0101 0110
  0000 0100 & ((R3 & 0x4) == 0x0)!
  0000 0100 Set

- Check if Z Flag is Set [0000 0010]
  ↳ 0101 0110
  0000 0010 & ((R3 & 0x2) == 0x2)!
  0000 0010 Set

- Check if C Flag is Set [0000 0001]
  ↳ 0101 0110
  0000 0001 & ((R3 & 0x1) == 0x1)!
  0000 0000 Not Set (clear)

No. _____

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Set I Flag (bit 7 to 1) and clear the T Flag (6 to 0)

↳ 0101 0110 I to 1

1000 0000 | (bitwise OR)

1101 0110 T to 0

1011 1111 & (bitwise AND)

1001 0110 (150) ✓

R3 = ((R3 | 0x80) & 0x BF);

* Proven