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Maximum Value

Given variables A and B, each holding an 8-bit signed 2's complement number. Write a program to find the maximum value and put into variable C. Example if A > B then C = A. C = Max(A,B)

Option A: Basic implementation of if-then-else statement using load -> do something -> store structure

Simulation of the unsigned problem C = Max(05,03), where the answer should equal 05 (0x05).

```
reset:
                                          Watch
                                                                                                 ×
       ;Initialize SRM Variables
                                           Name
                                                          Value
                                                                       Type
                                                                                         Location
      clr
             r16
                                                                                          0x0100 [SR
       sts
              A, r16
                                              Α
                                                                      SRAM Location
              B, r16
                                              В
                                                         0 ''
       sts
                                                                      SRAM Location
                                                                                          0x0101 [SR
              C, r16
       sts
                                              С
                                                         0 ''
                                                                      SRAM Location
                                                                                          0x0102 [SR
  loop:
       ; Test Max1
       ldi
             r16, 0x05
             A, r16
       sts
➾
       ldi
             r16, 0x03
       sts
             B, r16
       rcall Max1
                                                      Watch 1 / Watch 2 / Watch 3 / Watch 4
       rjmp loop
                                           H \leftarrow F F
```

Figure 1: Start of Maximum program with variable A initialized to 0x05 (05₁₀)

```
reset:
                                        Watch
    ;Initialize SRM Variables
          r16
                                         Name
                                                       Value
                                                                   Type
                                                                                      Location
    clr
                                                      5 '|'
                                                                                       0x0100 [SR
    sts
           A, r16
                                            Α
                                                                   SRAM Location
    sts
           B, r16
                                            В
                                                        1.11
                                                                   SRAM Location
                                                                                       0x0101 [SR
           C, r16
    sts
                                            С
                                                      0 ''
                                                                   SRAM Location
                                                                                       0x0102 [SR
loop:
     ; Test Max1
           r16, 0x05
    ldi
    sts
           A, r16
           r16, 0x03
    ldi
           B, r16
    sts
    rcall Max1
                                                   Watch 1 / Watch 2 / Watch 3 / Watch 4
    rjmp loop
```

Figure 2: variable B is initialized to 0x03 (03₁₀)

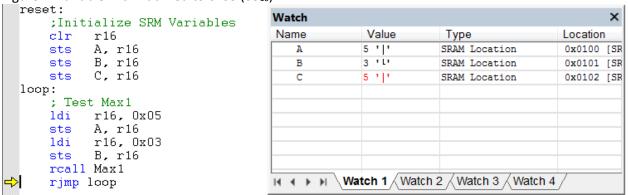


Figure 3: End of Maximum program with variable C containing 0x05 (05₁₀)