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 B: Basic implementation of if-then-else statement. Structure modified to immediately store result.
Simulation of the unsigned problem C = Max(27,07), where the answer should equal 27 (0x1B).

```
reset:
    ;Initialize SRM Variables
    clr   r16
    sts   A, r16
    sts   B, r16
    sts   C, r16
loop:
    ; Test Max2
    ldi   r16, 0x1B
    sts   A, r16
    ldi   r16, 0x07
    sts   B, r16
    rcall Max2
    rjmp loop
```

Watch

Name	Value	Type	Location
A	27 '←'	SRAM Location	0x0100 [SR
B	0 ''	SRAM Location	0x0101 [SR
C	0 ''	SRAM Location	0x0102 [SR

Watch 1 | Watch 2 | Watch 3 | Watch 4

Figure 1: Start of Maximum program with variable A initialized to 0x1B (27_{10})

```
reset:
    ;Initialize SRM Variables
    clr   r16
    sts   A, r16
    sts   B, r16
    sts   C, r16
loop:
    ; Test Max2
    ldi   r16, 0x1B
    sts   A, r16
    ldi   r16, 0x07
    sts   B, r16
    rcall Max2
    rjmp loop
```

Watch

Name	Value	Type	Location
A	27 '←'	SRAM Location	0x0100 [SR
B	7 '•'	SRAM Location	0x0101 [SR
C	0 ''	SRAM Location	0x0102 [SR

Watch 1 | Watch 2 | Watch 3 | Watch 4

Figure 2: variable B is initialized to 0x07 (07_{10})

```
reset:
    ;Initialize SRM Variables
    clr   r16
    sts   A, r16
    sts   B, r16
    sts   C, r16
loop:
    ; Test Max2
    ldi   r16, 0x1B
    sts   A, r16
    ldi   r16, 0x07
    sts   B, r16
    rcall Max2
    rjmp loop
```

Watch

Name	Value	Type	Location
A	27 '←'	SRAM Location	0x0100 [SR
B	7 '•'	SRAM Location	0x0101 [SR
C	27 '←'	SRAM Location	0x0102 [SR

Watch 1 | Watch 2 | Watch 3 | Watch 4

Figure 3: End of Maximum program with variable C containing 0x1B (27_{10})