

# MidTerm Project Programs

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# MidTerm Project Programs

- Program Expectations
  - Each program is run from a reset condition
    - Registers A,B,C,D are unknown
    - The data memory is unknown
      - You can leave the previous programs value in RAM if you wish
  - Each program runs to completion and all registers/outputs remain stable until a reset is received
    - Note – the output select signal must work even after the completion of the program
    - Accomplish this by keeping the same final instruction (NOP) in the done state

# MidTerm Project Programs

- Program 1 – located at ROM address 0

```
ldi a,0x10  
ldi b,0x0a  
sub a,b,c  
or a,c,d  
add b,c,b  
and d,b,c  
sub d,a,a  
nand a,b,c  
nor d,c,b  
slt c,d  
nop
```

# MidTerm Project Programs

- Program 2 – located at ROM address 64

```
ldi a,0x02  
ldi b,0x04  
ldi c,0x08  
ldi d,0x0C  
st a,d  
st b,c  
st d,a  
st c,b  
ld a,a  
ld b,b  
ld c,c  
ld d,d  
nop
```

# MidTerm Project Programs

- Program 3 – located at ROM address 160

Write your own program to calculate the sum of numbers from 1 to 7.  
You must add all 7 numbers together.

Challenge: see if you can do this with a single LDI command