

### **Special Function Registers – SPF**

Get the latest datasheet, Instruction Set

<http://ww1.microchip.com/downloads/en/DeviceDoc/ATmega48A-PA-88A-PA-168A-PA-328-P-DS-DS40002061A.pdf>

<http://ww1.microchip.com/downloads/en/DeviceDoc/AVR-Instruction-Set-Manual-DS40002198A.pdf>

Go to Section 36, Register Summary

Note address range 0xFF at the top, 0x20 at the bottom

Which SRAM blocks does this cover?

Note the link to a detailed explanation for each SFR.

#### **Problem #2**

Locate SREG, PORTB, EEDR, TCCR0B

Look into DDRC for DDRC6, and EECR for EEPE

Identify the SRAM address, register name or bit name/bit position.

### **General Purpose Registers – GP Reg**

#### **Problem #3**

Use the SER command.

### **Upper SRAM Memory Locations**

#### **Problem #4**

Pick a GP Reg for intermediate data transfer.

Use the SER command.

Use STS, Store Direct to Data Space    `sts 0x0200, r16` (using r16 as the GP Reg)

OR

Use ST, Store Indirect to Data Space using the X index register

Copy the first address of the sequence into the X Reg (2 bytes)

Then use `st X+, r16` three times, once for each address location.

Use VMLAB to test your code.

Open a Registers Window and/or a Data Memory Window to observe the memory contents for proper operation.