

1) Add, Subtract, Multiply operations:

- a. ADC. Adds two 8 bit registers, adds carry
- b. ADD. Adds two 8 bit register, without carry
- c. ADIW. Adds a 6 bit constant and a 16 bit register pair
- d. FMUL. Multiplies two 8 bit registers as a unsigned fraction
- e. FMULS. Multiplies two 8 bit registers as a signed fraction
- f. FMULSU. Multiplies two 8 bit register, one signed and one unsigned fractional number
- g. MUL. Multiplies two 8 bit registers as signed numbers
- h. MULS. Multiplies two 8 bit registers, as unsigned fraction
- i. MULSU. Multiplies two 8 bit registers, one signed and one unsigned fractional number
- j. SBC. Subtracts two 8 bit registers and subtracts carry
- k. SBIW. Subtracts one 6 bit constant from a 16 bit register pair
- l. SUB. Subtracts two 8 bit registers without carry
- m. SUBI. Subtracts 8 bit constant from and 8 bit register without carry

2 Pseudo code for 16 bit add

- 1 Load operands into registers
- 2 Add registers containing the lower byte of the 16 bit number, carry gets set if needed
- 3 Add with carry the registers containing the higher byte of the 16 bit numbers
- 4 Store first result in \$0100
- 5 Store second result in \$0101

3 Pseudo code for 16 bit subtract

- 1 Load operands into registers
- 2 Subtract registers containing the lower byte of the 16 bit number, carry gets set if needed
- 3 Add with carry the registers containing the higher byte of the 16 bit numbers
- 4 Store first result in \$0100
- 5 Store second result in \$0101