

ADC:

ATmega 16/32				(XCK/T0) PB0	1	40	PA0 (ADC0)	ADC Input channels
				(T1) PB1	2	39	PA1 (ADC1)	
				(INT2/AIN0) PB2	3	38	PA2 (ADC2)	
				(OC0/AIN1) PB3	4	37	PA3 (ADC3)	
				(SS) PB4	5	36	PA4 (ADC4)	
				(MOSI) PB5	6	35	PA5 (ADC5)	
				(MISO) PB6	7	34	PA6 (ADC6)	
				(SCK) PB7	8	33	PA7 (ADC7)	
				RESET	9	32	AREF	External ADC Ref. Voltage
				VCC	10	31	AGND	Analog Gnd (ADC Ground)
				GND	11	30	AVCC	ADC Vcc
				XTAL2	12	29	PC7 (TOCS2)	
				XTAL1	13	28	PC6 (TOCS1)	
				(RXD) PD0	14	27	PC5 (TD1)	
				(TXD) PD1	15	26	PC4 (TD0)	
				(INT0) PD2	16	25	PC3 (TMS)	
				(INT1) PD3	17	24	PC2 (TCK)	
				(OC1B) PD4	18	23	PC1 (SDA)	
				(OC1A) PD5	19	22	PC0 (SCL)	
				(ICP1) PD6	20	21	PD7 (OC2)	

ADC Register

In AVR ADC, we need to understand four main register -

1. **ADCH**: Holds digital converted data higher byte
2. **ADCL**: Holds digital converted data lower byte
3. **ADMUX**: ADC Multiplexer selection register
4. **ADCSRA**: ADC Control and status register

Write Embedded C code using ATmega16 μ C to update 2x16 LCD Display by LM35 Temp sensor readings.

Requirements:

- Configure the μ C control with internal 1Mhz Clock.
- Connect the LCD Data Path to PORTC.
- Connect the "RS" LCD pin to PD4.
- Connect the "R/W" LCD pin to PD5.
- Connect the "E" LCD pin to PD6.
- Temp Sensor connected to ADC Channel 0.
- This message always exist on LCD:
"Temp = x C"
x is the temperature value got from temp sensor.