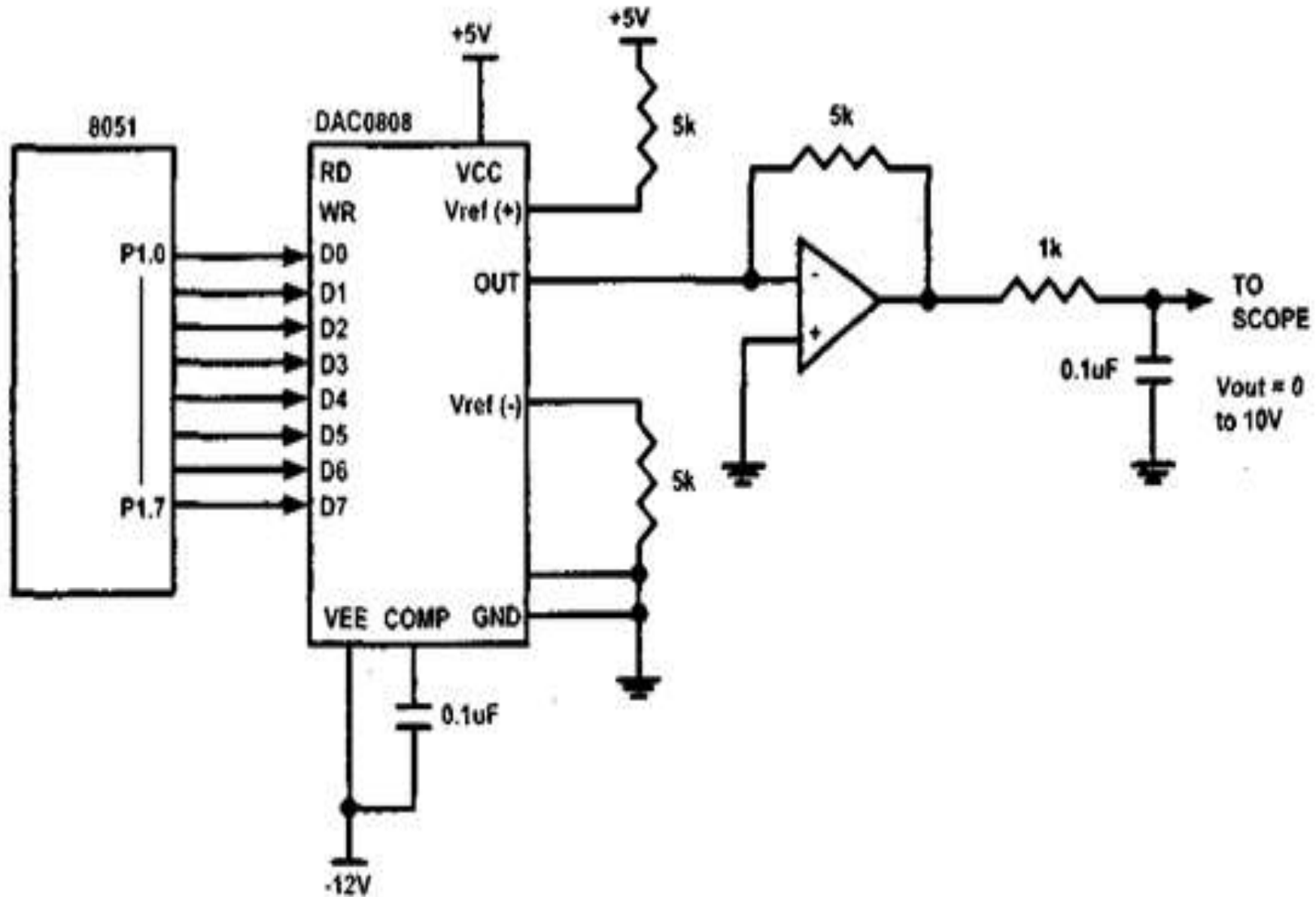


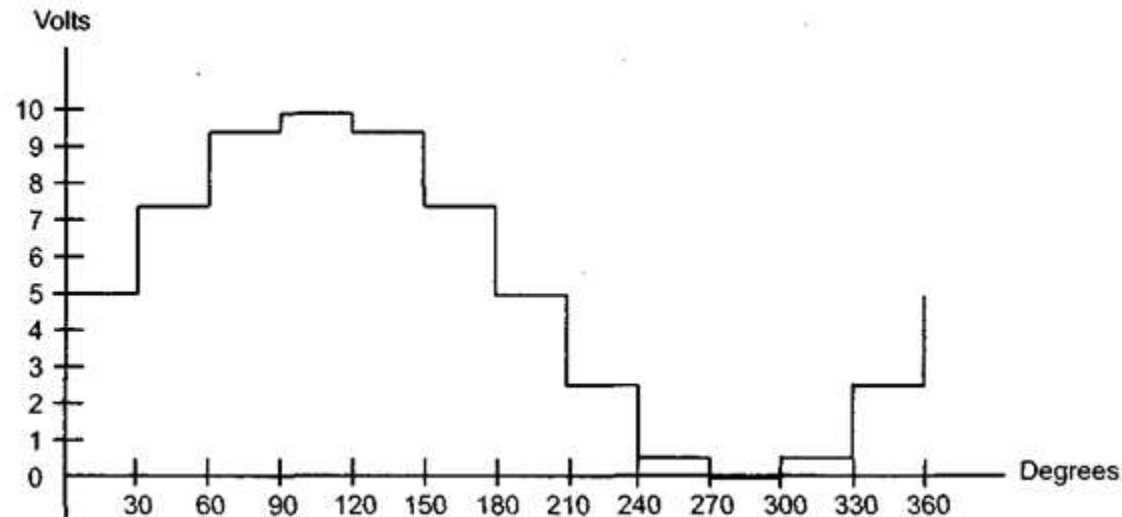
DAC

8051 Connection to DAC808



program to send data to the DAC to generate a stair-step ramp

```
          CLR  A
AGAIN:    MOV  P1,A           ;send data to DAC
          INC  A             ;count from 0 to FFH
          ACALL DELAY        ;let DAC recover
          SJMP AGAIN
```



□ 8251 status register

DSR	SYNDET	FE	OE	PE	TxEMPTY	RxRDY	TxRDY	status register
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TxRDY: transmit ready
RxRDY: receiver ready
TxEMPTY: transmitter empty
PE: parity error
OE: overrun error
FE: framing error
SYNDET: sync. character detected
DSR: data set ready

⌘ The DAC find applications in areas like digitally controlled gains, motor speed control, programmable gain amplifiers, digital voltmeters, panel meters, etc.

In a compact disk audio player for example a 14 or 16-bit D/A converter is used to convert the binary data read off the disk by a laser to an analog audio signal.

Characteristics :

1. Resolution: It is a change in analog output for one LSB change in digital input.

It is given by $(1/2^n) * V_{ref}$. If $n=8$ (i.e. 8-bit DAC)

$$1/256 * 5V = 39.06mV$$

2. Settling time: It is the time required for the DAC to settle for a full scale code change.

SENSOR INTERFACING

take temperature sensor for example

