

Result Example-10-5

the digital value 000 should be assigned to the analog voltage interval

$0V \pm S/2$, Since in 2's complement representation, there is one more negative number than the number of positive numbers, the analog voltage from $-V$ to $+V$ should be divided in seven intervals, each of size $S=2V/7$, and one digital value is to be assigned to each interval. The extra digit output 100 can be used to represent the interval $-V$ to $-9V/7$