

110011

*1) Make a copy of raw data

$$\begin{array}{r} 110011 \\ - 000001 \\ \hline 110010 \end{array}$$

R2 (Temp)

(Decrement by 1)

R3 (2nd Temp)

Z=0
counter++

$$\begin{array}{r} 110011 \\ \text{AND } 110010 \\ \hline 110010 \end{array}$$

R2 (Temp)

R3 (2nd Temp)

R2 (Temp)

$$\begin{array}{r} 110010 \\ - 000001 \\ \hline 110001 \end{array}$$

R2 (Temp)

~~R3~~ (Decrement by 1)

R3 (2nd Temp)

Z=0
counter++

$$\begin{array}{r} 110010 \\ \text{AND } 110001 \\ \hline 110000 \end{array}$$

R2 (Temp)

R3 (2nd Temp)

R2 (Temp)

4 iterations
There are
4 1's in
the number

$$\begin{array}{r} 110000 \\ - 000001 \\ \hline 101111 \end{array}$$

R2 (Temp)

(Decrement by 1)

R3 (2nd Temp)

$$\begin{array}{r} 110000 \\ \text{AND } 101111 \\ \hline 100000 \end{array}$$

R2 (Temp)

R3 (2nd Temp)

R2 (Temp)

Z=0
counter++

$$\begin{array}{r} 100000 \\ - 000001 \\ \hline 011111 \end{array}$$

R2 (Temp)

~~R3 (2nd Temp)~~ (Decrement by 1)

~~R3 (2nd Temp)~~

$$\begin{array}{r} 100000 \\ \text{AND } 011111 \\ \hline 000000 \end{array}$$

R2 (Temp)

R3 (2nd Temp)

R2 (Temp)

Z=1
counter++