

$$\begin{array}{r}
 \textcircled{1100} \ 1011 \mid \textcircled{1011} \\
 - 1011 \\
 \hline
 \textcircled{0001} \ 1 \\
 - 1011 \\
 \hline
 \textcircled{1000} \\
 + 1011 \\
 \hline
 00110 \\
 - 1011 \\
 \hline
 \textcircled{1011} \\
 + 1011 \\
 \hline
 01101 \\
 - 1011 \\
 \hline
 \textcircled{00101} \\
 - 1011 \\
 \hline
 \textcircled{1010} \\
 + 1011 \\
 \hline
 0101
 \end{array}$$

Quotient = 18

Divisor, Quotient $\rightarrow u$ bits

\Rightarrow Dividend $\Rightarrow 2u-1$ bits

$$\begin{array}{r}
 75+ \\
 128 \\
 \hline
 203 \mid 11 \\
 \underline{11} \quad 18 \\
 = 93 \\
 \underline{88} \\
 = 5
 \end{array}$$

1024
2048
4096
8192

8257_{ten}

$$\begin{array}{r}
 8257 \mid 130 \\
 \underline{780} \quad 63 \\
 = 457 \\
 \underline{390} \\
 = 67
 \end{array}$$

$$\begin{array}{r}
 8257 - \\
 8192 \\
 \hline
 = 65 - \\
 \underline{64} \\
 = \textcircled{1}
 \end{array}$$

= 100,0000,1000,001 Remainder = 5

$\left\lceil \log_2 \text{no. of iterations} \right\rceil$

[]

COUNT	A	Q	M
000	$ \begin{array}{r} \textcircled{001000} \ 0000 \\ - \textcircled{010000} \ 0010 \\ \hline \textcircled{11011} \ 1110 \\ + 010000 \ 0010 \\ \hline 001000 \ 0000 \\ 010000 \ 0001 \end{array} $	$ \begin{array}{r} 1000 \ 001\textcircled{0} \\ \downarrow \\ 1000 \ 001\textcircled{0} \\ \\ 0000 \ 01\textcircled{00} \end{array} $	1000 0010
001	$ \begin{array}{r} 010000 \ 0010 \\ \textcircled{11111} \ 1111 \\ + 010000 \ 0010 \\ \hline 010000 \ 0001 \\ 100000 \ 0010 \end{array} $	$ \begin{array}{r} 0000 \ 01\textcircled{00} \\ \downarrow \\ 0000 \ 1\textcircled{000} \end{array} $	
010	$ \begin{array}{r} 010000 \ 0010 \\ \textcircled{10000} \ 0000 \\ 100000 \ 0000 \end{array} $	$ \begin{array}{r} 0000 \ 1\textcircled{001} \\ \downarrow \\ 0001 \ \textcircled{010} \end{array} $	

011	01 000 0010 00111 1110 01111 1100	0001 0011 001 0110
100	01 000 0010 00111 1010 01111 0100	001 0111 01 0110
101	01 000 0010 00111 0010 01110 0100	01 0111 1 01110
110	01 000 0010 00110 0010 01100 0101	1 01111 0 1110
111	01 000 0010 00100 0011	0 011 1111
64 ten		63 ten

$$\begin{array}{r}
 4800 \mid 103 \\
 412 \mid 46 \\
 \hline
 = 680 \\
 618 \\
 \hline
 = 62
 \end{array}$$

$$\begin{array}{r}
 103 - \\
 64 \\
 \hline
 = 39 - \\
 32 \\
 \hline
 = 7
 \end{array}$$

$$\begin{aligned}
 4800_{\text{ten}} &= 1001011000000 \\
 103_{\text{ten}} &= 01100111
 \end{aligned}$$

$$\begin{array}{r}
 4800 - \\
 4096 \\
 \hline
 = 704 - \\
 512 \\
 \hline
 192 \\
 128 \\
 \hline
 = 64
 \end{array}$$

COUNT	A	Q	T
000	00010 0101 - 00110 0111 01011 1110 + 00110 0111 00010 0101 00100 1011	1000 000 0 1000 000 0 0000 0000	0110 0111
001	00110 0111 01110 0100 + 00110 0111 00100 1011 01001 0110	0000 000 0 0000 0000 0000 0000	
010	00110 0111 00010 1111 00101 1110	0000 000 0 0000 0000	
011	00110 0111		

	$ \begin{array}{r} \textcircled{1}11110111 \\ + 001100111 \\ \hline 001011110 \\ 010111100 \end{array} $	$ \begin{array}{r} 00000\textcircled{0}011 \\ 000\textcircled{0}0100 \end{array} $	
100-	$ \begin{array}{r} 001100111 \\ \hline \textcircled{0}01010101 \\ 010101010 \end{array} $	$ \begin{array}{r} 000\textcircled{0}0101 \\ 00\textcircled{0}01010 \end{array} $	
101-	$ \begin{array}{r} 001100111 \\ \hline \textcircled{0}01000011 \\ 010000110 \end{array} $	$ \begin{array}{r} 00\textcircled{0}01011 \\ 0\textcircled{0}010110 \end{array} $	
110-	$ \begin{array}{r} 001100111 \\ \hline \textcircled{0}00011111 \\ \textcircled{0}00111110 \end{array} $	$ \begin{array}{r} 0\textcircled{0}010111 \\ 0\textcircled{0}101110 \end{array} $	
111-	$ \begin{array}{r} 001100111 \\ \hline \textcircled{1}11010111 \\ + 001100111 \\ \hline 000111110 \end{array} $	$ \begin{array}{r} \textcircled{0}0101110 \\ \hline 46_{tu} \end{array} $	
	$ \underbrace{\hspace{10em}}_{62_{tu}} $	$ \begin{array}{r} 14+ \\ 32 \\ \hline 46 \end{array} $	

