

Module 3 Checksum, CRC

Sunday, 12 May 2024

4:04 PM

Checksum:

Eg: 7, 11, 12, 0, 6

$$7 + 11 + 12 + 0 + 6 = 36$$

$$\begin{array}{r} 100100 \\ \underline{10} \\ 0110 \rightarrow 6 \\ \text{(1's complement)} \\ \hline 1001 \rightarrow 9 \end{array}$$

[7, 11, 12, 0, 6, 9] → Receiver Side

$$7 + 11 + 12 + 0 + 6 + 9 = 45$$

11 1

$$\begin{array}{r} 101101 \\ \underline{10} \\ 1111 \rightarrow \text{1's complement} \\ \downarrow \\ 0 \end{array}$$

CRC:

Dataword : 1001

Divisor : 1011

$$\begin{array}{r} 1011 \overline{) 1001000} \\ \underline{\oplus 1011} \\ 0000 \end{array} \rightarrow \text{xor operations}$$

1011 / 1001000

⊕ 1011 ↓

0100
0000
1000
1011
0110
0000
110

Remainder

1001110



Passed for decoder

1011) 101

1001110

1011 ↓

0101
0000
1011
1011
0000

If non zero value came then error occurred