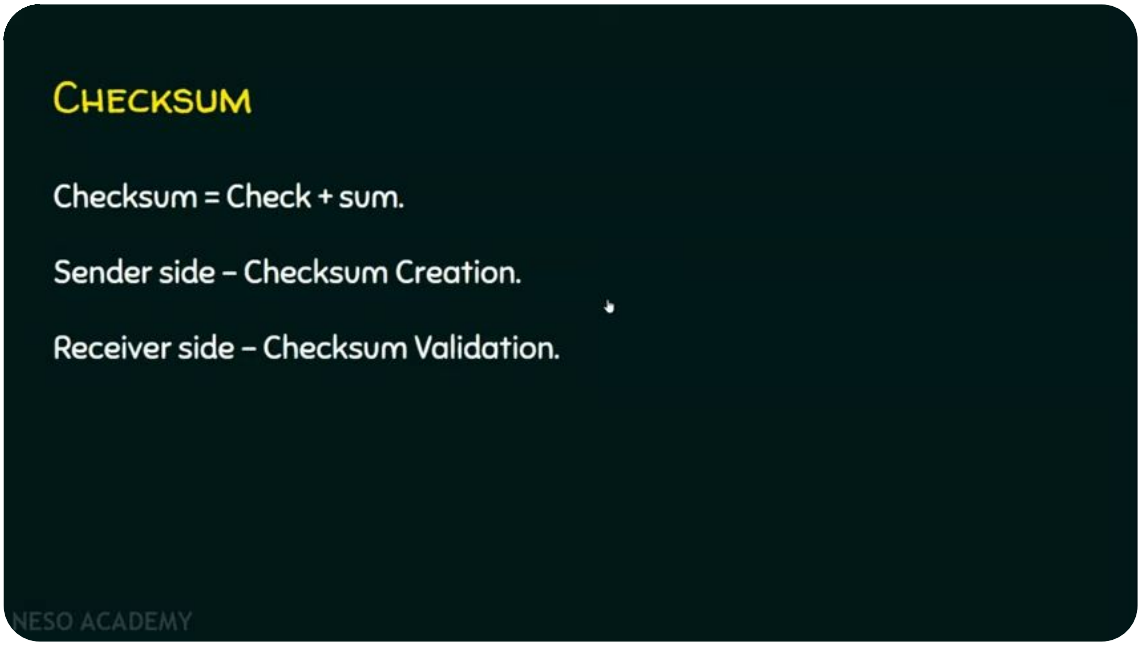
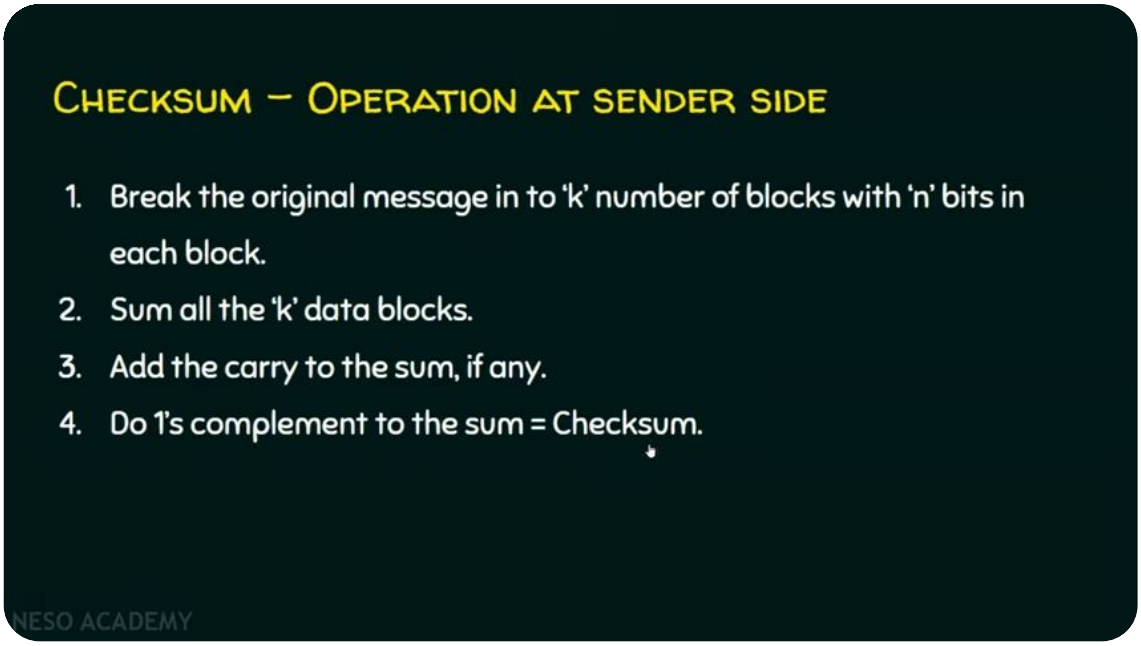
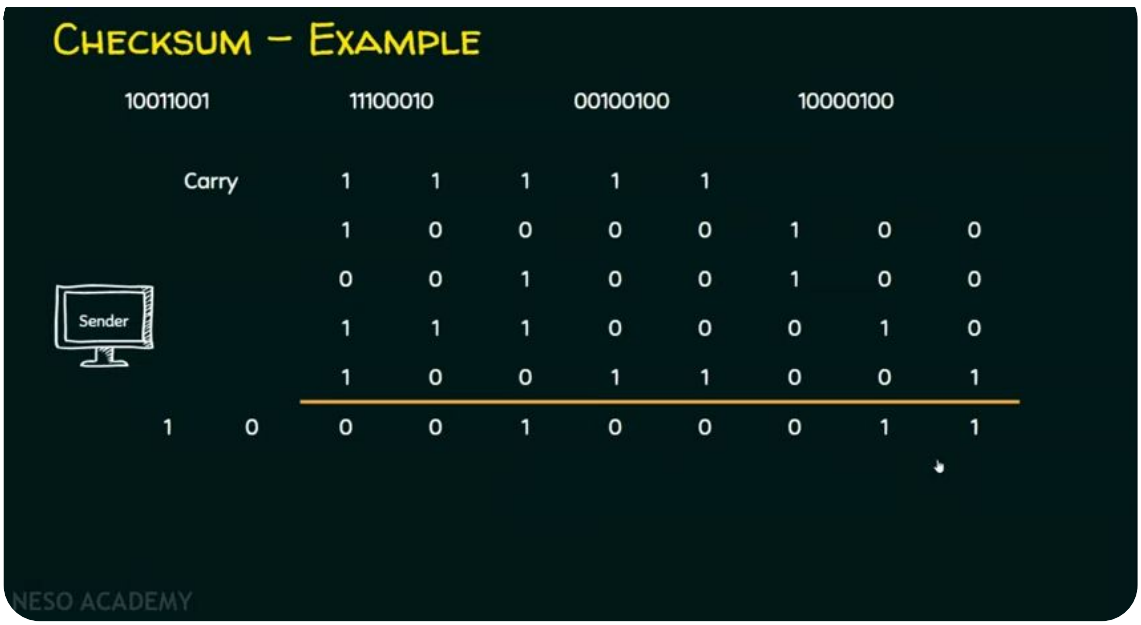
00:56



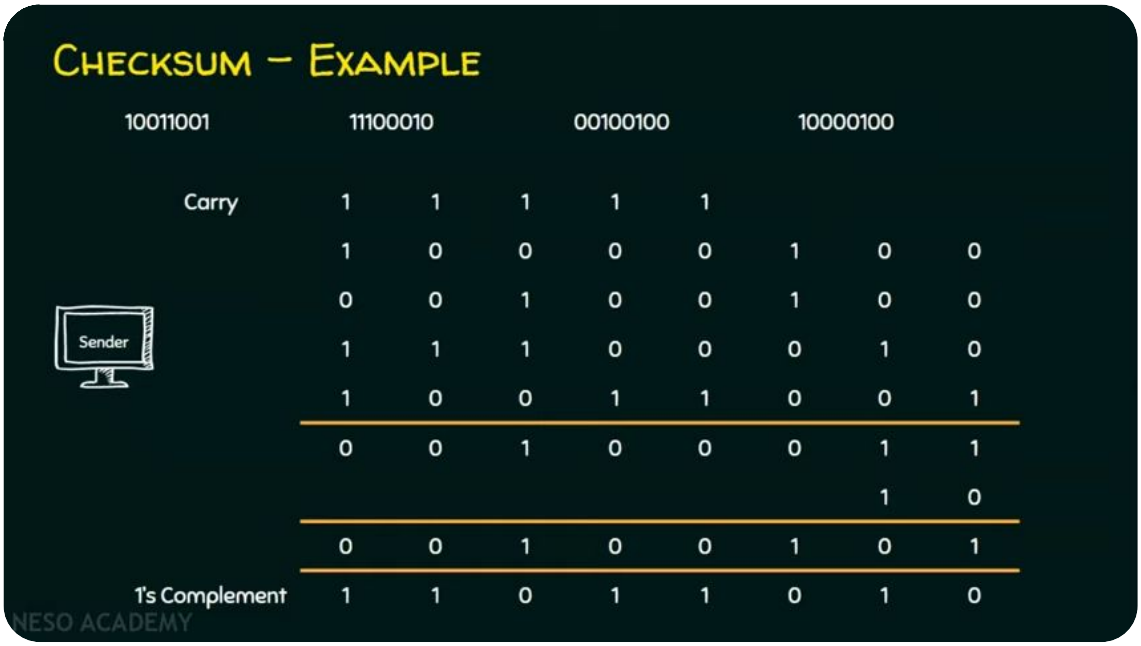
02:18



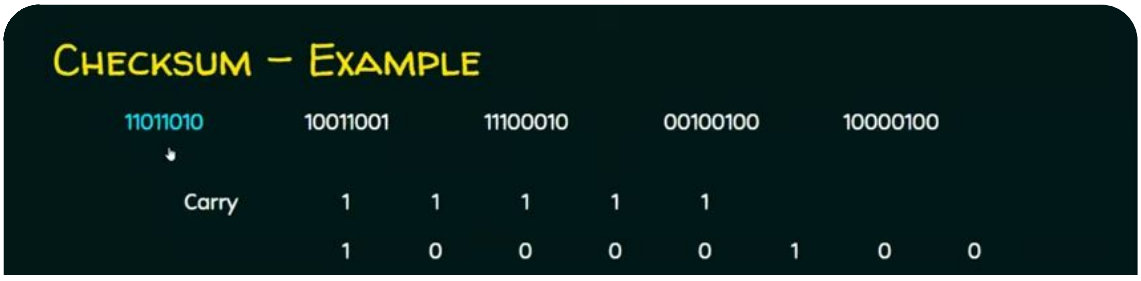
05:34

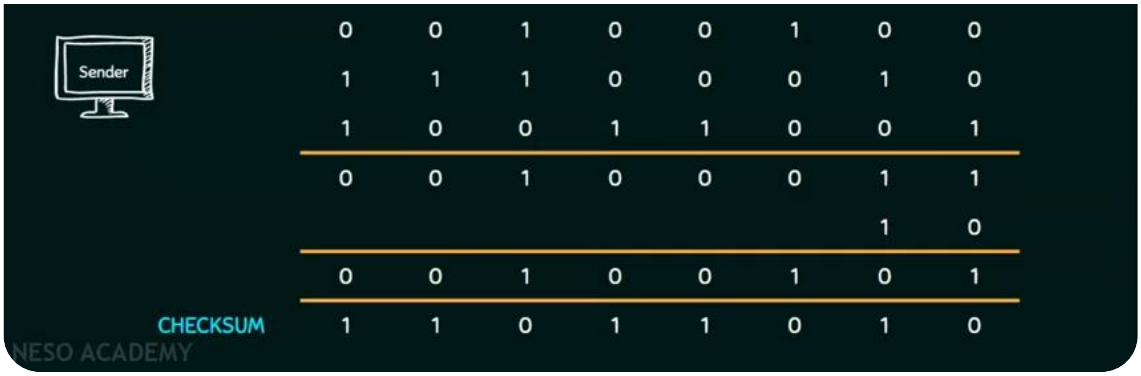

CHECKSUM – EXAMPLE
10011001
11100010
00100100
10000100
Carry
1 1 1 1 1
1 0 0 0 0 1 0 0
0 0 1 0 0 1 0 0
1 1 1 0 0 0 1 0
1 0 0 1 1 0 0 1
1 0 0 0 1 0 0 0 1 1
Sender
NESO ACADEMY

06:16

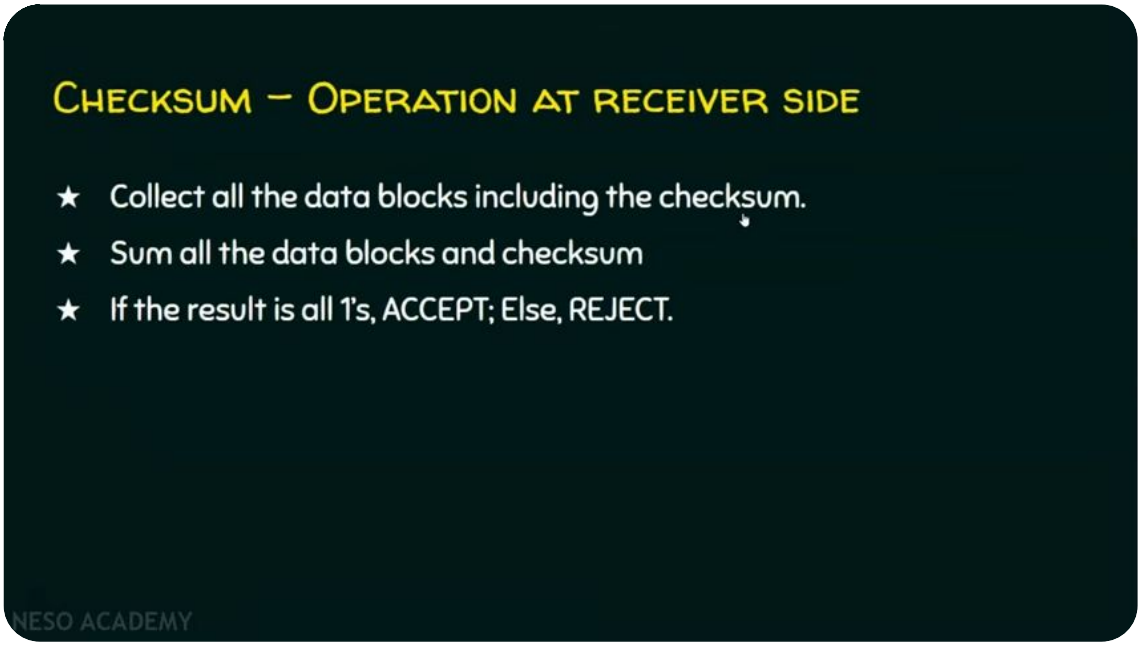

CHECKSUM – EXAMPLE
10011001
11100010
00100100
10000100
Carry
1 1 1 1 1
1 0 0 0 0 1 0 0
0 0 1 0 0 1 0 0
1 1 1 0 0 0 1 0
1 0 0 1 1 0 0 1
0 0 1 0 0 0 1 1
1 0
0 0 1 0 0 1 0 1
1's Complement
1 1 0 1 1 0 1 0
Sender
NESO ACADEMY

06:36

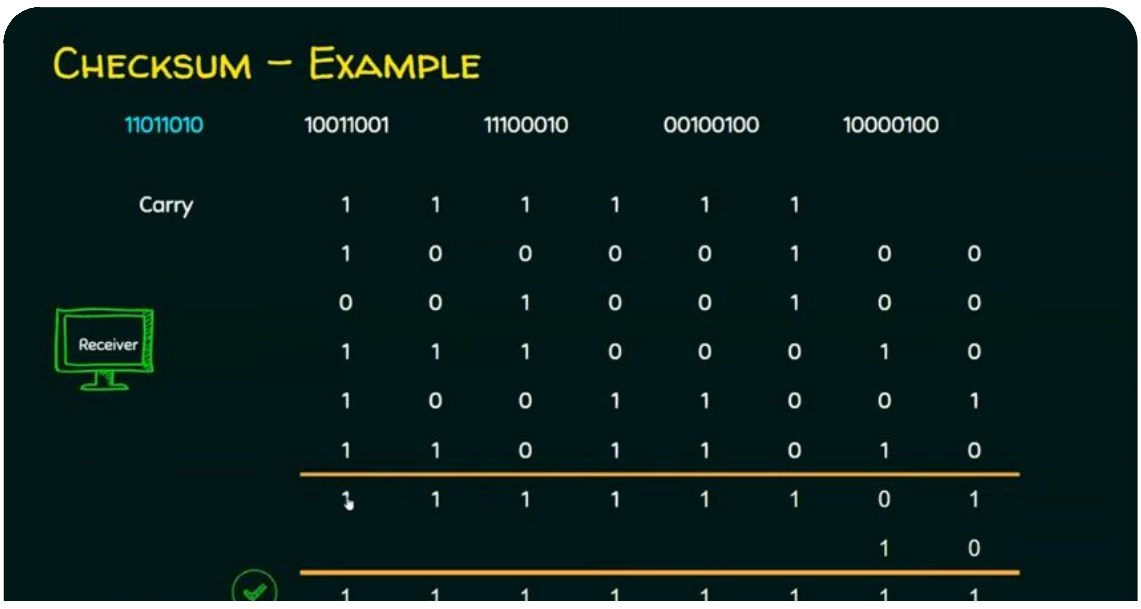

CHECKSUM – EXAMPLE
11011010
10011001
11100010
00100100
10000100
Carry
1 1 1 1 1
1 0 0 0 0 1 0 0


Sender
0 0 1 0 0 1 0 0
1 1 1 0 0 0 1 0
1 0 0 1 1 0 0 1
0 0 1 0 0 0 1 1
1 0
0 0 1 0 0 1 0 1
CHECKSUM 1 1 0 1 1 0 1 0
NESO ACADEMY

06:59

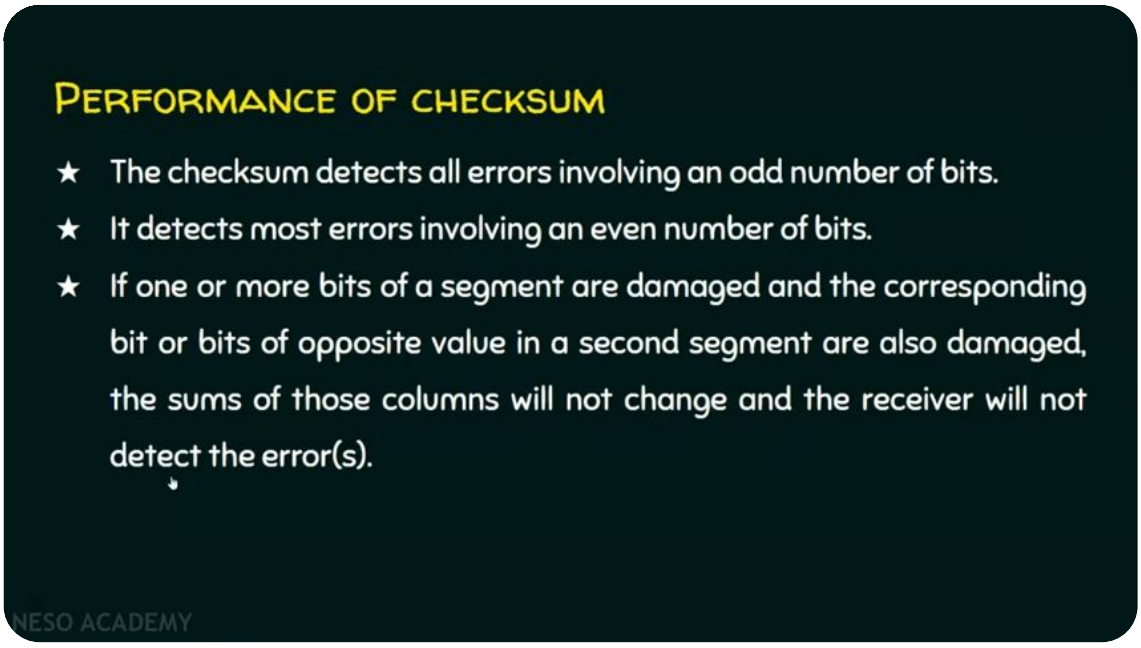

CHECKSUM – OPERATION AT RECEIVER SIDE
★ Collect all the data blocks including the checksum.
★ Sum all the data blocks and checksum
★ If the result is all 1's, ACCEPT; Else, REJECT.
NESO ACADEMY

08:14


CHECKSUM – EXAMPLE
11011010 10011001 11100010 00100100 10000100
Carry 1 1 1 1 1 1
1 0 0 0 0 1 0 0
0 0 1 0 0 1 0 0
Receiver
1 1 1 0 0 0 1 0
1 0 0 1 1 0 0 1
1 1 0 1 1 0 1 0
1 1 1 1 1 1 0 1
1 0
1 1 1 1 1 1 1 1


NESO ACADEMY

08:56


PERFORMANCE OF CHECKSUM
★ The checksum detects all errors involving an odd number of bits.
★ It detects most errors involving an even number of bits.
★ If one or more bits of a segment are damaged and the corresponding bit or bits of opposite value in a second segment are also damaged, the sums of those columns will not change and the receiver will not detect the error(s).
NESO ACADEMY