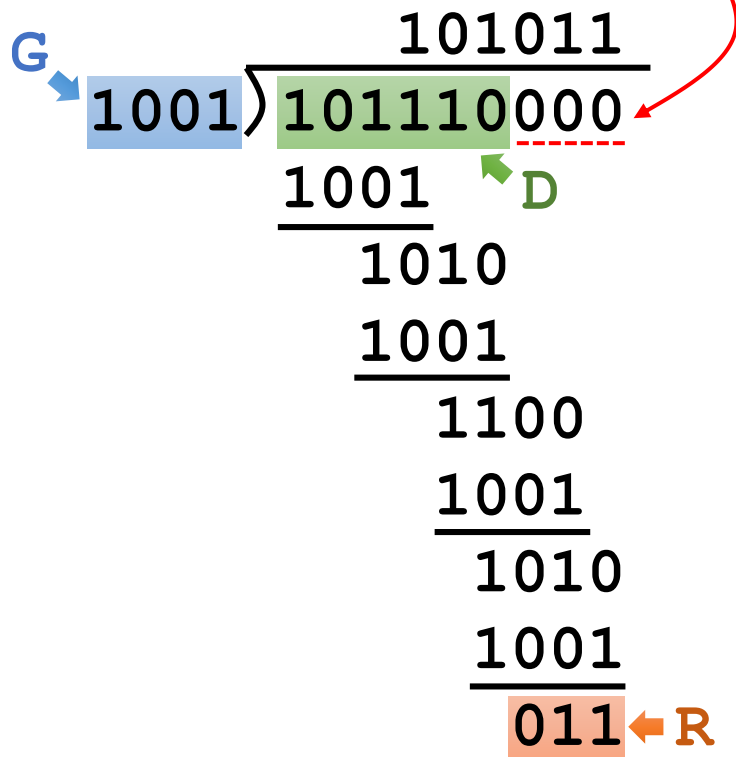


At the transmitter:

- Data to be sent (D)
= 101110
- Generator (G) $r + 1 = 4$
= 1001 $\therefore r = 3$

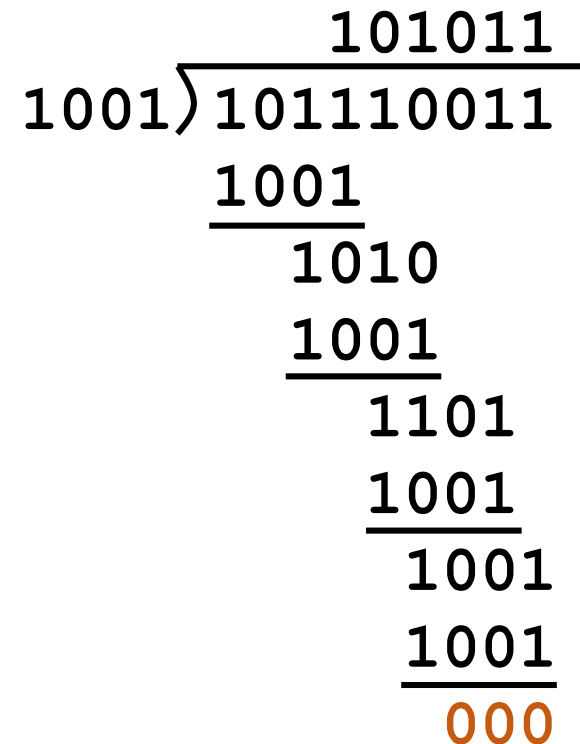


Transmitted: 101110011

At the receiver:

[Case 1]

- Received bit pattern
= 101110011



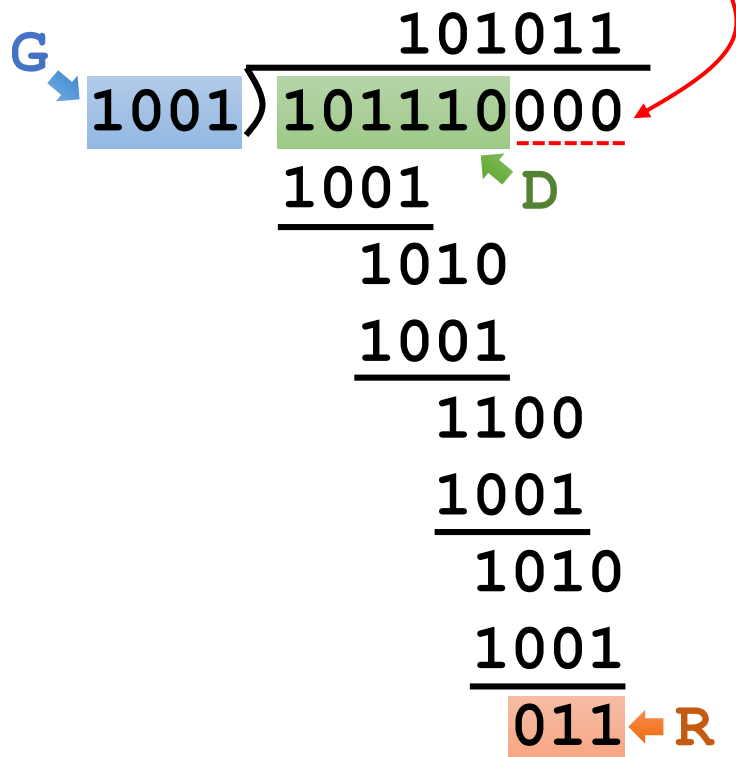
Since the remainder is zero
 \therefore **No error detected**

At the transmitter:

- Data to be sent (D)
= 101110
- Generator (G)
= 1001

$$r + 1 = 4$$

$$\therefore r = 3$$

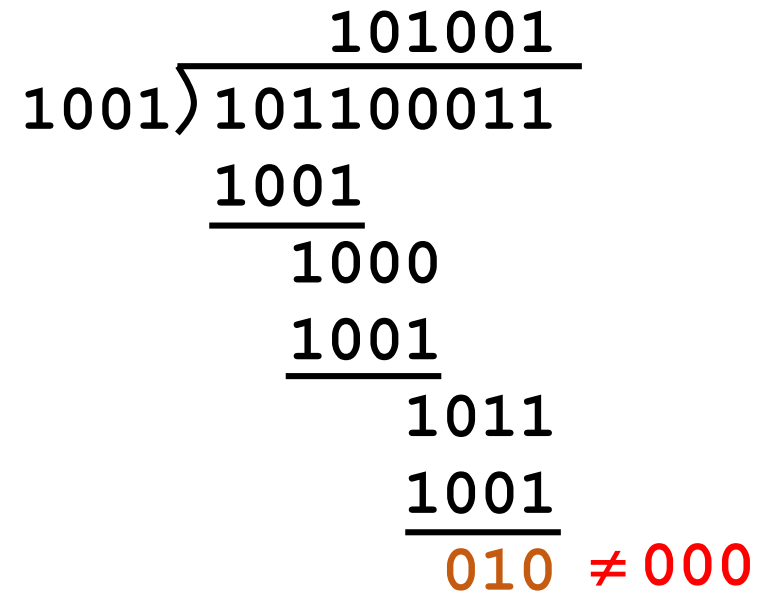


Transmitted: 101110011

At the receiver:

[Case 2]

- Received bit pattern
= 101100011



Since the remainder is *nonzero*
 \therefore Error(s) detected !