2 Checking for errors – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	**Write it 3 times** (English)
parity bit	
error	

Recall

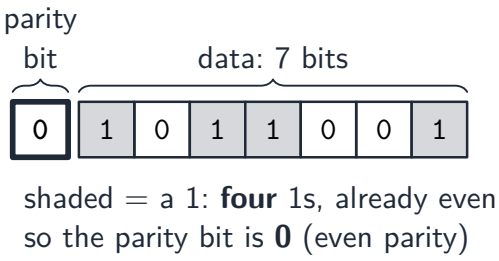
Data can get corrupted as it travels, so we check it for errors.

New ideas

Read these first, then do the Practice.

■ 1 Parity check

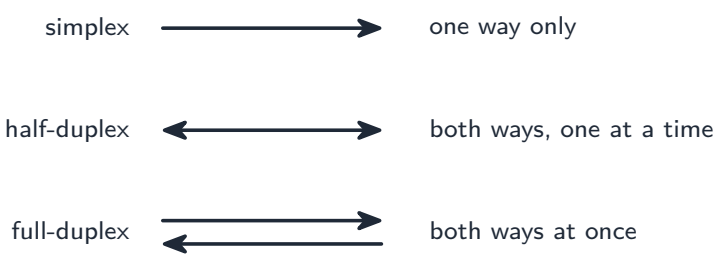
A **parity bit** is an extra bit added to make the number of 1s even (even parity) or odd:



If the count is wrong when the data arrives, there is an **error** .

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2 Transmission modes



Watch out: a **parity bit** is set so the *total* number of 1s matches the agreed parity (even or odd). It catches a **single** flipped bit, but not two flips that cancel out. Simplex = one way; half-duplex = one way at a time; full-duplex = both at once.

Practice

Try these in order.

2.6 Why do we check data for errors? [1]

2.7 What is a *parity bit*? [1]

2.8 Some data has three 1s. For **even** parity, what should the parity bit be? [1]

2.9 A walkie-talkie lets you talk one way at a time. Which transmission mode is this? [1]

2.10 A phone call lets both people talk at once. Which mode is this? [1]

2.11 Challenge. Even parity is used, with the parity bit added at the end. The 7-bit data 1011010 is to be sent. State the parity bit and the full 8-bit code sent. [3]

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