# Develop an SEC code for a 16-bit data word. Generate the code for the data word 0101000000111001.... 1 answer below »

Develop an SEC code for a 16-bit data word. Generate the code for the data word 0101000000111001. Show that the code will correctly identify an error in data bit 5. How many check bits are needed if the Hamming error correction code is used to detect single bit errors in a 1024-bit data word?

## 1 Approved Answer

Ankit B answered on **January 03, 2017**
4632 answers so far



**Answer:**

Single Error Correcting (SEC) Code:

• When the error occurs in data bits, the SEC code used to determine where the error takes place.

| | | | |
|---|---|---|---|
| 1 | 00001 | C1 | |
| 2 | 00010 | C2 | |
| 3 | 00011 | | D1 |
| 4 | 00100 | C4 | |
| 5 | 00101 | | D2 |
| 6 | 00110 | | D3 |
| 7 | 00111 | | D4 |
| 8 | 01000 | C8 | |
| 9 | 01001 | | D5 |
| 10 | 01010 | | D6 |
| 11 | 01011 | | D7 |
| 12 | 01100 | | D8 |
| 13 | 01101 | | D9 |
| 14 | 01110 | | D10 |
| 15 | 01111 | | |
| 16 | 10000 | C16 | |

# Related Questions in Networking - Others

## How many check bits are needed if the Hamming error...

December 05, 2016

How many check bits are needed if the Hamming error correction code is used to detect single bit errors in a 1024 - bit data word ?

## 1. For the 8-bit word 00111001, the check bits stored... (Solved)

November 21, 2016

1. For the 8- bit word 00111001, the check bits stored with it would be 0111. Suppose when the word is read from memory, the check bits are calculated to be 1101. What is the data word...

## 1. For the Hamming code shown in Figure 5.10, show what happens... (Solved)

November 21, 2016

1. For the Hamming code shown in Figure 5 .10, show what happens when a check bit rather than a data bit is in error ? 2. Suppose an 8- bit data word stored in memory is 11000010. Using...

**Solution Preview :**

Answer: 1. The desire check bit rather than a data bit is in error is as given below: 2. consider c1 Data Bits are “D7, D5, D4, D2, Dl” Corresponding stored word is “10010” Position numbers...

## A message is split into 10 packets, each of which has 80% chance of...

May 16, 2015

produces output as shown here. Construct the frame that the multiplexer sends.Suppose we want to devise a single- bit error -correcting Hamming code for a 16 - bit data string. How many...

## 1. Assume we are sending data items of 16-bit length. If two... (S



1. Assume we are sending data items of 16 - bit length. If two data items
swapped during transmission, can the traditional checksum detect this error ? Explain. 2. Can the value of a...

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