* How is MTTF calculated?

Mean time to failure. If you have 1,000,000 discs, and if you average the time it takes to fail, and it ends up being 1 year, then the MTTF is 1 year.

* What happens to availability as MTTR tends towards 0?

Availability approaches 100%

* Calculate the 3-digit Hamming hex code for the byte 0x03

1101 0000 0011

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| p1 | p2 | d1 | p4 | d2 | d3 | d4 | p8 | d5 | d6 | d7 | d8 |
|  |  | 0 |  | 0 | 0 | 0 |  | 0 | 0 | 1 | 1 |
| 1 | 1 |  | 1 |  |  |  | 0 |  |  |  |  |
| 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |

* The 3-digit Hamming Hex Code, 0xc99, contains a flipped bit. Identify which bit is flipped and what the original, 2-hex-digit value was.

Original

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| p1 | p2 | d1 | p4 | d2 | d3 | d4 | p8 | d5 | d6 | d7 | d8 |
| 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |

Recalculated:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| p1 | p2 | d1 | p4 | d2 | d3 | d4 | p8 | d5 | d6 | d7 | d8 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

1011 error = 11 so d7 is wrong

Corrected answer = 110010011011, removed parity = 0100 1011 or 0x4b