**Aim: To implement Hamming code**

**Theory:**

The Hamming code is a powerful error correcting code. It enables us to detect errors and to recover the original binary word if one digit goes wrong.

Like other error-correction code, Hamming code makes use of the concept of parity and parity bit s, which are bits that are added to data so that the validity of the data can be checked when it is read or after it has been received in a data transmission. Using more than one parity bit, an error-correction code can not only identify a single bit error in the data unit, but also its location in the data unit.





|  |
| --- |
| **Example:**  **Conclusion:** |

|  |  |  |
| --- | --- | --- |
| **Post Lab:**   |  | | --- | | 1. An 8-bit byte with binary value 10101111 is to be encoded using an even-parity Hamming code. What is the binary value after encoding?  2. If the code word is 011100101010. Suppose the word that was received is 011100101110 instead. Then calculate which bit is wrong and correct it.  3. For a hamming distance of 6 how many errors can be detected? How many can be corrected.  4. Generate the hamming code word 1010101. Assume odd parity for the hamming code. | |  | |

Signature of Faculty Date of Completion