**Aim:** To Implement CRC code generation and error detection using Java

**Theory:**

1. This method is based on binary division i.e modulo 2 division.

2. First a sequence of bits called CRC bits are appended to the end of the data unit (original data unit is ‘m’ bits) so that the resulting data unit becomes exactly divisible by a second, predetermined binary number (divisor).

3. If the predetermined divisor is ‘n’ bits then the CRC is ‘r = n-1’ bits.

4. Now at destination side, the new data (m + r) unit is divided by the divisor using Binary Division.

5. If remainder is zero then the data unit is assumed to be intact.

6. Else the data unit has been damaged in transit and rejected.





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

|  |
| --- |
| **Post Lab:**  **1. For the generator polynomial g = 110011 and the data bits (message) m = 11100011 find the CRC and the transmitted string T (since g is 6 bits, i.e. a polynomial of degree 5, L = 5 and the CRC should be 5 bits)**  **2. Suppose g = 1001 and the received T = 1010101, did any transmission errors occur? Justify why?**  **3. Suppose g = 101 and the received T = 1100110, did any transmission errors occur?** |

Signature of Faculty Date of Completion