

1. Find the even and odd parity encodings of the following data:

data	even parity	odd parity
0010111		
0101101		
0100000		
0001100		

2. Find the two-dimensional odd parity encoding of the above data.

3. Find the CRC bits for the message 01100101 using the generator sequence 1101.

$$1\ 1\ 0\ 1 \left| \begin{array}{cccccccc} 0 & 1 & 1 & 0 & 0 & 1 & 0 & 1 & 0 & 0 & 0 \end{array} \right.$$

4. Find the CRC bits for the message 01100101 using the generator polynomial $x^3 + x^1 + 1$.