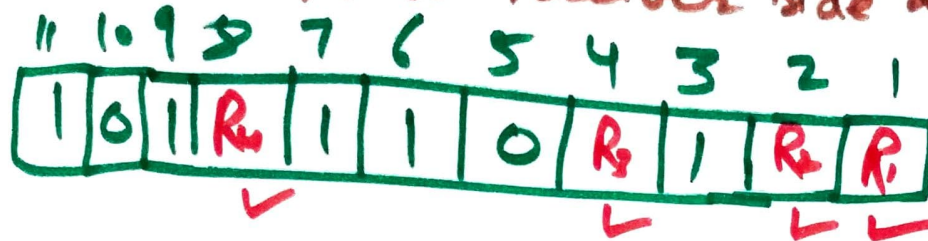
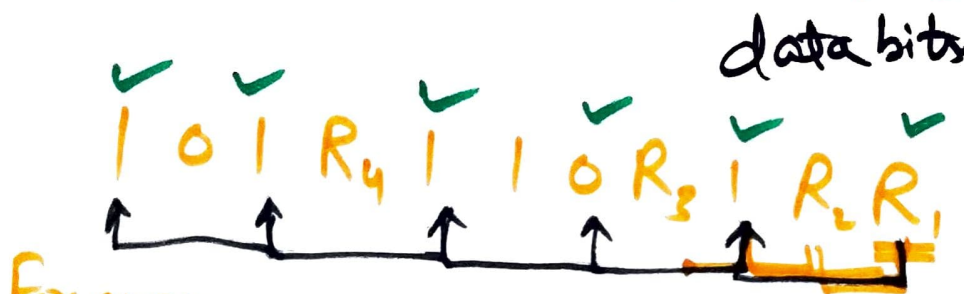


Q1 Make a Hamming Code of 1011101 for Even Parity and introduce error in the 4th bit at receiver side & correct it.



Rule of Placing goes with power of 2 :-  $2^n$  0-n



For even Parity  $R_{1ev}$

Code 1 1 1 0 1  $R_1$

$$R_{1ev} = 0$$

For even Parity  $R_{2ev}$

Code 1 0 1 1 1 0 1  $R_2$   $2^1 = 2$

$$R_{2ev} = 0$$

For even Parity  $R_{3ev}$

Code 1 0 1 1 1 0 1 1 0  $R_3$   $2^2 = 4$

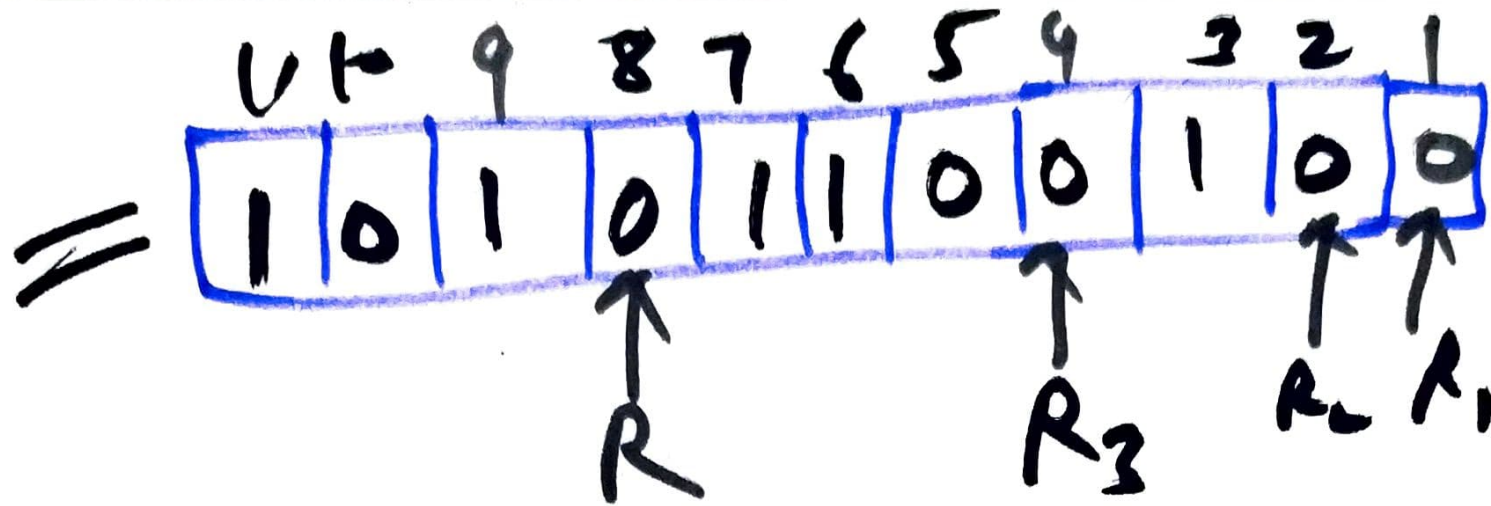
$$R_{3ev} = 0$$

For even Parity

Code 1 0 1 1 1 0 1 1 0 1 0 0 0 0  $R_4$   $2^3 = 8$

$$R_{4ev} = 0$$

1 0 1 0 1 1 0 0 1 0 0 0



Required Hamming code for even Parity.