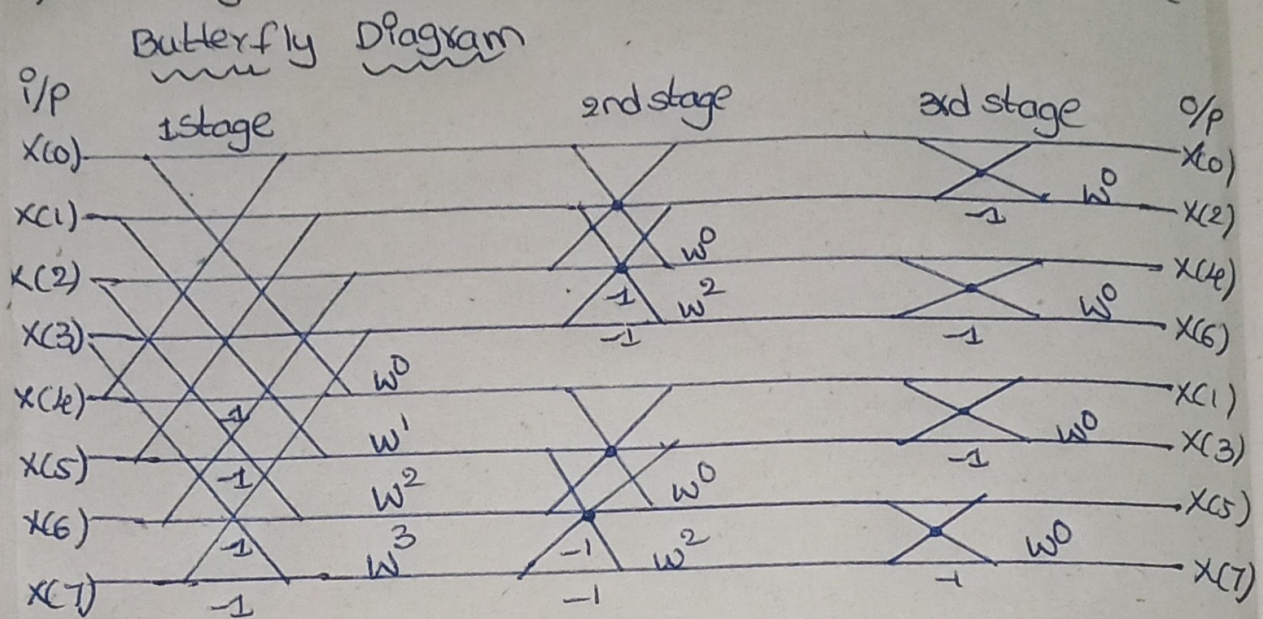1) FFT by decimation in frequency for 8 point sequence

Butterfly Diagram

Decimation in frequency of 8 point sequence using FFT

(i) In the output we can split the 4,4 elements, split 4 elements even indexed @ values. Next four elements are odd in indexed values.

ii) output we can bit reversed order

iii) Difference in DFT and FFT

In the given diagram the 1st stage we have flee stages

iv) No. of multiplication used and No. of additions is used to perform $x(\omega)$ remains same.