

IN FFT in special case when $n = 2^m$.

Now IN this method we start breaking the set of data into smaller ones or in other word breaking of FFT in smaller FFT.

As we first take DFT of first $N/2$ points & combines with remaining $N/2$ points DFT.

AND IN each sub part we again divide that FFT in smaller FFT. This recursion stop when we have to do DFT of single number.

So This is like going ~~up~~ to DFT of n to $n/2 \rightarrow n/4 \dots$

Now in reverse order we add them all to get total DFT.

So IN this sense there is $\log_2 n$ ~~steps~~ steps to come out of this recursion.

\therefore DFT of numbers is ~~of~~ order of n

So FFT order $\approx n \times \log_2 n$