

SNS COLLEGE OF ENGINEERING



(Autonomous)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

UNIT-I

Discrete Fourier Transform

Filtering Methods based on DFT-Overlap Save Method



FILTERING METHODS BASED ON DET : 1 1

For einean convolution imput sequence can be cond distation is to be operocessed with a seystem. to (un senodes seerous of finite distation by convolving the

LUSTO segruences Because of the someth of the

imput sequence, it could not be practical to store before performing with exapposite maintening recomis imput sequence must be divided unto stocks.

the successive blocks are processed separately and at a same and the mester are combined to obtain · naturalisa recomis

DED DEDNY two methods mamely,

borton box galvero (i from

a) overlap save method.

Everlap save method:

STEP. 1:

Pie dud a 1 3 strap Let the lemoth of the Up sequence xin) se'L' rand who sength of neve numbrosse sosbause sous se, W,

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STEP. 2 !

Enpire seguence is divided into. seocks of data of sing (L>M)



STEP 3 :

Each stack consist of last (M-1) data points, of previous stock string stab were 'i' fro bounded to gorm a data sequence xilm).

STEP.4:

terns ent was so soons their rot areas as see sty (1-M)

11,0,1, A. 31 + 17 = 170P STEP. 5:

Conjx 20 naturounas realisais stugmas with from i.e., yim = xim ofin

STEP.6:

terest arte trataing distant the tract 1M-1) yets of the filtered section Him.

The Romaining points from successive an between ments so everting construct the sinal filtered output.

State I di te e t

. E8. A1. B1 S1 P. L. J. - CNP

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Find the olf yenr-of a filter whose impulse suspense is him = $\{1,1,1\}$ and $xen = \{3,-1,0,1;3,2,0,1;2,1\}$ using everlap save mothod.

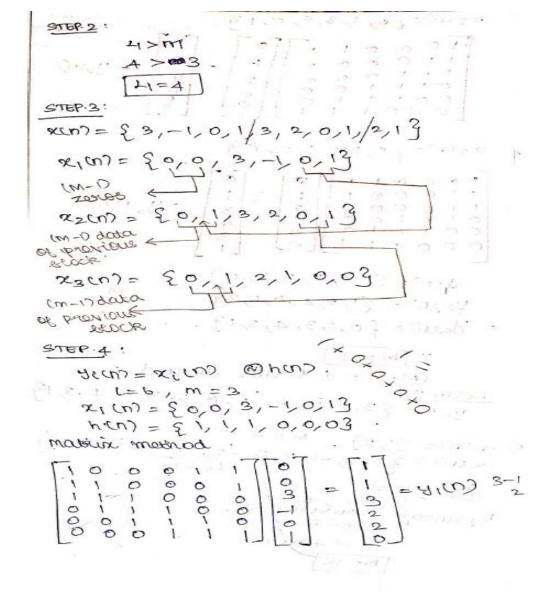
Ser! STEP.1: $x(n) = \{3, -1, 0, 1, 3, 2, 0, 1, 2, 13 \Rightarrow 1 \leq 16\}$ $x(n) = \{1, 1, 13 \Rightarrow m = 3\}$ By eignoser convolution,

N = 12 N = 12

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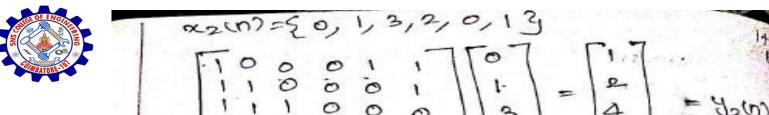
C + J + K = (2)/





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$$4(n) = \{1/1, 3, 2, 2, 0\}$$

 $4(n) = \{1/2, 4, 6, 5, 3\}$
 $4(n) = \{0/1, 3, 4, 3, 1\}$.

$$(M-1) = 2 \text{ terms discoord}$$

$$(RESULT)$$

$$y(n) = \{3, 2, 2, 0, 4, 6, 5, 3, 3, 4, 3, (3, 4, 5, 5), 3, (3, 4, 5, 5), 3, (3, 5, 5), 3, (3, 5, 5), 3,$$





Thank You!