

BDA SUMS - Bda sums

Big Data Analytics (University of Mumbai)



Scan to open on Studocu

FEBRUARY WEEK 06 THURSDAY O. Apply Matrix - Matrix M	ultiplic a	lion uging	FEBRUARY M T W T F S S S T S S S S S S S S S S S S S S
enodel and solve the	follocoi	ud exampl	P
$\frac{9}{10}$ $\begin{bmatrix} 1 & 2 \\ 1 & 2 \end{bmatrix} \times \begin{bmatrix} 3 \\ 3 \\ 1 \end{bmatrix}$	3 4]	E	
onsider A of 1	2]	$B = \begin{cases} 3 & 4 \\ 0 & 3 & 4 \end{cases}$	
12 Step 1: 1 motrix	10-0-0-0-	volue 1 2 1 2 3 4	
Believe that life is worth living and your belief will help o	reate the fact.		

MARCH 2022	FEB	RUARY 1
M T W 3 4 5 6 1 2 3 11 12 13		1 1 / 1
- 9 9 10 10 20		WEEK 06
20 30 31		FRIDAY 035 - 330
step 2: Map function	(matrix, j, vo	alue)
1/k	valu e	
9 0	(A,0,1)	1
A 3 0	(A,1,2)	
10	(A,O,I)	
	(A, 1, 2)	
11 0	(B, 0, 3)	
	(B, 1, 4)	2 1
12	(B 0 3)	
	(B) (4)	
1	*	1.00
step 3: Shuffle		
2		
i/k	value	
3 00	(A, O, 17	
A) O	(A,1,2)	
4	(A, O, 1)	Sill of palm
	(A, 1, 2)	
5 P O	(B, O, 3)	7
B 2 0	(B, O 3)	7
6	(314)	4
	(B.14)	
	() (* 1
Many of life's failures are people who didn't realize how clo	ise they were to success when the	ev gave up.
	Mere to socress when the	

FEBRUARY
WEEK 06
SATURDAY

Vasant Panchami - India

8 Step: Shuffle /gocuping

- 9 A B
 - $(0,0) \longrightarrow (A,0,1)(A,1,2)$ (B,0,3)(B,0,3)
 - $\begin{array}{ccc}
 & (0, 1) \longrightarrow (A, 0, 1) (A, 1, 2) \\
 & (B, 1, 4) (B, 1, 4)
 \end{array}$
 - $(1,0) \rightarrow (A,0,1) (A,1,2)$ (B,0,3) (B,0,3)
 - $(1,1) \longrightarrow (A,0,1) (A,1,2)$ (B,1,4) (B,1,4)
 - 4 Step 4 : Reduce function.
 - 500(1x3+2x3)=9
 - 601(1x4+2x4)=12

Don't let the fear of losing be greater than the excitement of winning.

MARCH 2022

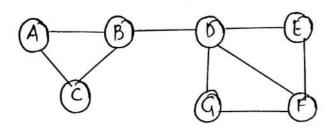
M T W T F S S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

FEBRUARY
WEEK 06
SUNDAY
037 - 328

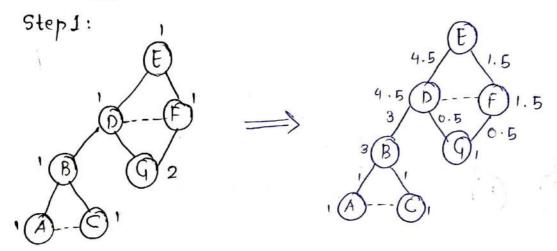
q 12] ig final ans of mo	atrix.
10	
11	
12	
1	
2	
3	
4	
5	
6	

Successful people do what unsuccessful people are not willing to do. Don't wish it were easier; wish you were better.

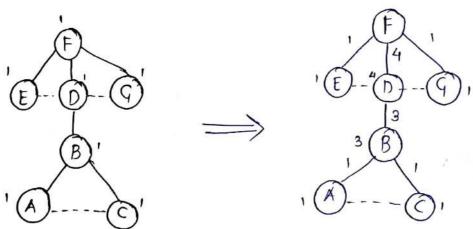
O. Figure is an Example of a social-network graph. Use the Girvan-Necoman approach to find the hetween-ness of every edge.



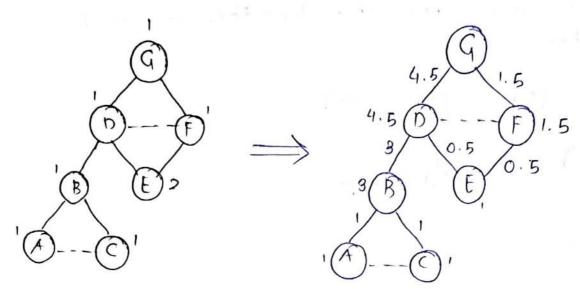
-> Solution:



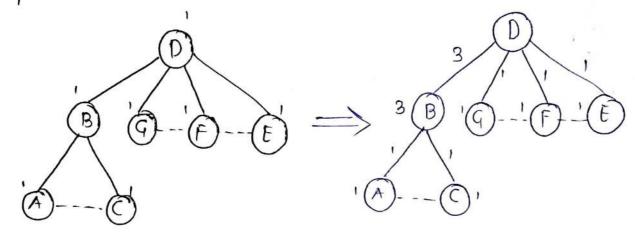
Step 2:



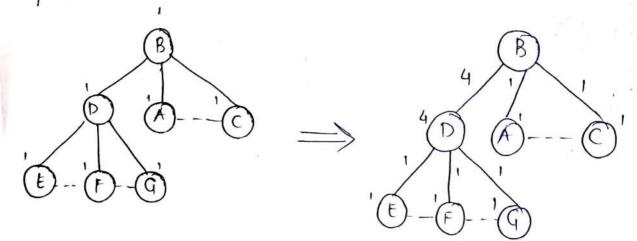
Step 3:



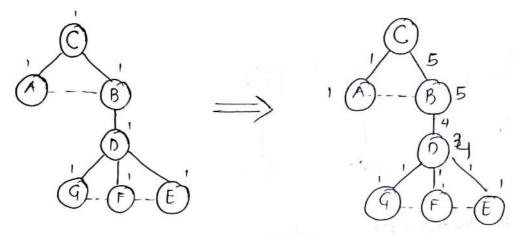
Step 4:



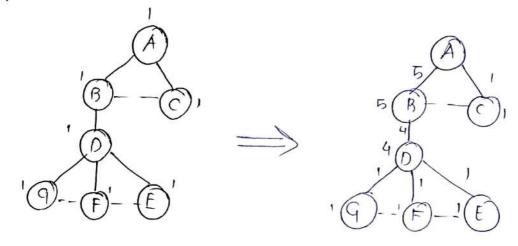
step 5:



Step 6:

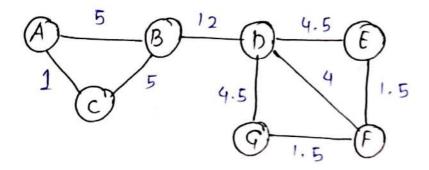


Step 7:



step 8: Edges betweenness calculation of every edge.

Edges		
ΑB	0+0+0+0+0+0+5 = 5	_
Ac	0+0+0+0+0+0+1 =1	-
BC	1. +1+1+1+10+0+0 # 0 = 5	
812	0+0+0+0+4+4+4 = 12	
Dq	0.5+0+0+1+1+1 = 4.5	_
PE	0+0+0.5+1+1+1+1 =4.5	
DGF	0+0+0+1+1+1+1 = 4	
G F	0+0+1.5+0+0+0+0 = 1.5	
EF	1.5+0+0+0+0+0+0 = 1.5	



Graph with hetweeness value

4. Suppose a datastream consists of the integers:2 1 6 1 5 9 2 3 5,Let the

function being used is

a) $h(x) = 2x+3 \mod 16$ b) $h(x) = 4x+1 \mod 16$

 $c)h(x)=5x \mod 16$

Count Distinct Elements in a stream using FM algorithm.

Passante .	
	17.74
	20
0 2 1 (1 -	-
Q. 2.1, 6,1, 5, 9, 2, 3, 5, Calculate distinct no of	-
i) $h(x) = 2x + 3 \mod 16$ elements in given data ii) $h(x) = 4x + 1 \mod 16$ iii) $5x \mod 16$	
ii) $h(x) = 4x + 1$ mod 16 Stream using FM algorit	ns
Approved of	- 8
i) h(2) = 2(2)+3 mod 16 = 7 h(9) = 5	-
h(2) = 5	
h(6) = 15 $h(3) = 9$	_
h(1) = 5 $h(5) = 13$	_
h(2) = 13	_
01 0.	_
Step 2: h(2) = 0111 h(9) = 0101	
h(2) = 0111 $h(9) = 0101h(1) = 0101$ $h(2) = 0111$.	
h(1) = 0101 h(2) = 0111. $h(6) = 1111 h(3) = 1001.$	-
h(1) = 0101 h(5) = 1101	
h(5) = 1101	
Step 3:	
h(2) = 0 h(9) = 0	
$h(1) = 0 \qquad h(2) = 0 \qquad .$	
h(6) = 0 $h(3) = 0$	
$h(1) = 0 \qquad h(5) = 0$	
h(5) = 0	
3tep 4:	
r(a) = 0	
=> R= 2°	
- 2 - 41	
1 (a) 1 (b) (c) 2 (c) 2 (c)	lve
There are 10 distinct clements for h(x) = 2x+3 m	A.M.

		411.00
		11112
ii> h(x) = 4x+1 mod 16		
	1.(a) - 5	200
h(2) = 4(2)+1 mod 16 = 9	h(2) = 9	TAL SE
h l l	h(3) = 13	
h(6) = 9	h(5) = 5	W.
h(i) = 5	3 1 1 1	
h(5) = 5	21 - 1 Six	
	10 11 11	
Step 2:	11 - (11)	
h(2) = 1001	h(3) = 0101	
h(1) = 1001	h(2) = 1001	153
h(6)= 1001	h(3)=1101	N. C
h(1)=0101	1(5)=0101	
h(5)= 0101		
1011: 234	roto = COH .	A HEAL
Step 3:	1011 1 (8) 1	
arep o		MI
h(2) = 0	h(3) = 0	918
ha) = 0 / 1	h(G) = 0	
h(6) = 0 0 (d)	h(3) = 0	
h(i) = 0 2 . (s) x	h(5)=0	
	a - (1)/4	
	7 2 3) 1	Hill
Step 4:		Cin S
Step 4:	1.4	21
	0	150
> R = 2 > 2 =	1 10 1	
The state of the s	W.	PARI
There are Is I des	est plans to P	No.
h(x) = 4x+1 m	ad 16	
The state of the s		

iii)
$$5 \times \text{mod } 16$$
 $h(2) = 5(2) \text{ mod } 16 = 10$
 $h(3) = 13$
 $h(1) = 5$
 $h(3) = 10$
 $h(3) = 15$
 $h(1) = 5$
 $h(3) = 15$
 $h(1) = 5$
 $h(5) = 9$

Step 2:

 $h(2) = 1010$
 $h(3) = 1101$
 $h(1) = 0101$
 $h(2) = 1010$
 $h(3) = 1111$
 $h(1) = 0101$
 $h(5) = 1001$

Step 3:

 $h(2) = 1$
 $h(3) = 0$
 $h(1) = 0$
 $h(2) = 1$
 $h(3) = 0$
 $h(1) = 0$
 $h(3) = 0$
 $h(4) = 1$
 $h(5) = 0$

Step 4:

 $Y(a) = 1$
 $Y(a) = 1$

Downloaded by Adwait Purao (adwait.purao@spit.ac.in)