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)	
•	
) 3	
)	A CONTRACTOR A CON
)	HOMEWORK ASSIGNMENT 6
,	
)	Prove two Az(j) > lower(j), where
)	lower (n) = 5 2 tower (n-1) if n 70,
)	
)	(1 +6 n=0.
)	
Poli	dion?
à	We know that Ackermann's function ?
3	defined as:
3	Sitt if K-O.
9	Ax(j) = { J + 1 1 1 1 1 1 1 1 1 1
à	$A_{\kappa}(j) = \begin{cases} j+1 & j \\ k = 1 \end{cases}$ $A_{\kappa}(j) = \begin{cases} j+1 & j \\ k \neq 1 \end{cases}$
3	(K-1)
à	((C x 1 x A T x B) x A T x B)
3	Por j = 1; $Por j = 0Ak(j) = A_{k-1}(j) Ak(0) = A_{k}(0)= 1$
116	Por j-1; Ak(j) = Aj+1(j) Az(0) = A'z(0)
1-9+97	=1
3	$A_{3}(1) = A_{g}^{2}(1)$
-) -)	() (() () () () = 1
•	$= A_g(A_g(1))$ $A_g(0) = \overline{Lower(0)}$
-	= Ag (-9) = 2047
•	
1	: A(1) = 2047 - 0
1	A
1	
1	A STATE OF THE STA

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	In a Alban Calabor Detail and I alband
	Now lets consider lower (j) for j=1.
	(Diver (0) = I
	lower(1) = 2 lower(1-1) $= 2 lower(0)$ $= 2(1)$
	Lower (1) = 2 mar
	= 2 lawer (0)
	= 2(1)
THE RESIDENCE OF THE PARTY OF T	= 2
	.î. (nour (1)= 2 - 2

THE WATER TO SERVE AND A SERVER OF THE SERVE	comparing () and (3) we conclude that
	and a we could be
	Az 1) > Lower (1)
	131) > 100088(1)
-	
	for 9=2
	3
	$A_3(2) = A_2(2)$
	$= 42 \left(42 \left(2\right) \right)$
	= Ag (Ag (23))
	= A2 (22 24 -1) (. A3(j) 2(j+1)-1)
	A3(2) = A9 g24.24-1 - 1

	Now lets consider lower ;=2.
I had to make	The second secon
Service 1	lower (0)=1. :
	Lower (1) = 2.
STATE OF THE STATE	lower(3) = 2 lower(2-1)
	10008(2) = 4 - Q.

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)	
,	
	composiny () and (2) we conclude trat:
,	confing () and (a) are concerned from.
	A 3(2) 7 Lower (2)
1 60	400 - 100
)	
)	from the above inclusions we can say
	from the above conclusions we can say
	A3(1) 7 Lower(1)
)	A3(1) 7 Word (1)
)	1 6 1 3 3 9 1
,	As the value of j increases tere typical Az(j) octor grows so rapidly that it becomes nearly non computable
)	Listing 1 (1) more armie in movidly
)	Discours of the second of the
N	That it begins nearly not anything
	after vortain voille of
9 (9	
)	Therefore Az(i) well always be greater
)	Therefore Ag(i) will always be greater topot thanlower (i) no matter what the value of is in a certain computation except when fere value 6:00 j=0
•	value of it is in a certain computation.
4	encept when tere value 6.0h 1=0
4	Hence we have proved trut:
4	mence we have
3	I A m > Towner(s)
	A3(q) Z tower(f)
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-	
4	
-	
The second second second second second	
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SA.	
9	

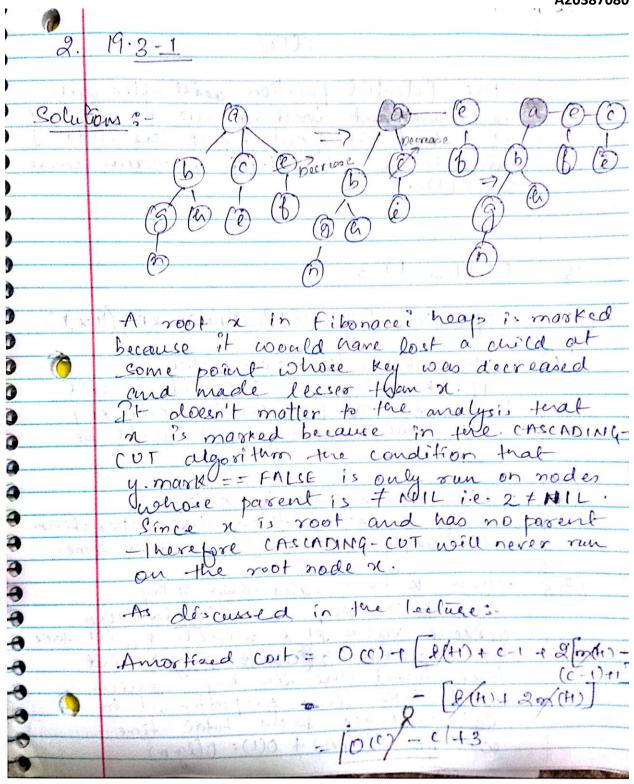


	Fig.
DECEMBER OF THE PERSON NAMED IN	= 0(1)
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	une potential function world after will is crease bout world now also to marking of a but it won't affect fore-total of amortised cost which remains same
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and the control of the control	of months of the second
and market	amortina cor which resolution same
er kanaden er er er eg kanner eg ka	00 0(1).
THE STATE OF THE STATE OF THE	
(province the second of	5 1 10 0
3.	Problem 19-3.
(a).	operation FIB. HEAP-CHANGE-KEY (H. x. F)
7 +7	
(1)	co hen K ?. less forom a key
	La Ren K ?: less terom a key The Kan Key the procedure will be beame and FTB-HEAP DECREAGE-KEY and hence amortised coet will be
4.3	be Deame an FIB-HEAP-DECREAGE-KEY
Alteria.	and hence amortized opet well be
manifestacionis marilios (secumentes	a O(D) heles is some and read to a
2.5.1.5.4	the same of the sa
(12)	16 K = x - key from the operation usite comply take 0(1) anisotred time.
(4)	11 K = x koy from the operation
ann a sea a daoine ann ann an ann an a	11 Comply Jaky O(1) and fred 18mg
Market Salahan Market Salah	
, 25	rober K is a color terom x. Kou
(3)	The Marian and deleted the
With the same of t	A solute (of a column to a col
to the second second second	ausdent volle of & well take
	cohen K is greater from n. Key The property will take and of a which puill take and form insert the new Key, which and for the line propostional to only there are total time of the form of the older of the form of the older older of the o
	Then insort the new teg, whose
	agett take time propostional to
	O(1). Hence to fur total time
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N. S. Carlotte	

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(
(6)	1. FIB-HEAP-PRONE(H, Y)
	resolution with it is adjust the ducto
Solut	tions-11 ma took bed her death or many
	1000
,	De introduce au additional contro tere
	potential ametion which is propostional.
	tool - condid only increase loss a content
	potential pune from which is proportional to the size of the structure. How tere. Out coold only increase by a constent if we do an investion.
passage and all streets as Act of the Street Street Street Street	
	(Di) = L(H) + & m(H)
8	Giren that q = min(x, ti.n)
	Now after modifying the potential function we modify the first connecting tere levy nodes with the help of doubly linked list.
3	we modify fire her connecting tere
3	leaf nodes with the help of doubly
	linked liet.
	linked liet. This representation of lear nodes ariter doubly linked list well help in pruning the Theap more efficiently.
<u>a</u>	to aby linear more efficiently.
a	
•	we proceed ne fa pruning in the following
3	
3 0	Pick any leaf force in the
-0	pick any leaf state de lost. From it parent chéld lost. Remore fere leaf node from fine list ap containing the leaves.
0	of Carrore the leaves.
-0-0	content co
-0	The above pruning procedure ?s repeated
-0	

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	a temper of 1100, walls make toll sufficial	1
	9 times. The will make potential drop by factor or . The deletion from a docte linked list will take constant Come for each operation. Therefore Amostived with is constant	10
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	from a decide content sist of the	ide
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Assignment 6

Chitrarth Singh A20387080

REFERENCE:

http://www.math.rutgers.edu/~ajl213/CLRS/Ch19.pdf