10	Jianan Lus	
A2	20523403	
N.		
ST SHE IT	(a) I. Find the node with the assumed name	2. The algorithm = - 1
	2. Sup the noce we found and the last nocle	to the property of
men Alpha de Hill ca	3. Delete the node we found to	while is != n+1
The Heavister	4. Bubble down the swaped hode	keyValue (AC:)
	The worst case run time is: Oun+ O(log n)	to how total a consens Is
	Step 1: O(n) seb bushes a no fuer	It would be be my on the
100 100 100 100 100 100 100 100 100 100	Step 2000 Han heart on the	Swap (Aci), A[key Value (Aci)])
Continue -	Step 31 (O(1)) see an and see make	and well to wa note
E3A of 40 Co	Step 4: O(logn)	to endulate who has
919H X 35W 779	lhe time complexity of the norst case as Ocn)	Note: The function Keylalue return the key value
	b) I find the node with the assumed priority	of an element in arran A
	2. July the node we tound with the last nade	So this algorithm basically loop from 1 to n-1
may 4 Jan	2. 2. 11 A rule we found the	and in the loop, check if the current element
	1 4 Subble down the swaped node.	index in the array equal to it's value. If it
0	the worst case run tre is: O(logn) + O(logn)	is, the counter of the loop plus 1, Otherwise,
	CJA of Step 18 Octobra) - January 35 Months	
11	Step 2: 0(11) = 12 11 3819	molex is the key value of the current element.
show Apple with	Charles (OCIO 1/2)	For example when == 0 and A[5] = {3, 1, 2, 0,
4 - 11 - 11 1	Step 4: O(log n)	Then we do swap > A[5]= {8,1,2,3,4}
Shoth interpt some	c) I swap the node at the index and the last node	
Way Head I	2. Delete the mode at the index	i++; We keep doing this until the loop is don
Start Missiani	111 / / / / / / / / / / / / / / / /	3. The algorithm:
Talk West Same!	Cap (1) Steps (1801) os to	
A Advisor Day	CIAStep 2=01)	1. convert the arroy to binony (32 bits) enough for
	Step 3: O (logn)	2. create a loop from 0 to 31, counter is bit Inde 3. we put every elements which "bit index" to left of
Forsk intellally mane!	(EETTle worst case run time is = Ocloyn)	the array. And for those are 1, put them to right win
	ISA IN The time complexity of the worst case is O(logn)	4. Keep the Kth smallest number, delete rest of the arm
	which is still belongs to O(n)	5. Convert them back. A
	all is der to Act	Step 1: O(n) This es kind like a
	return ACI	Step 2+3 = 320(n) browny motors sort
m 25 BE3	So the mont case for his algorith	Step 4: O(n)
	Wach 25 4-1=3	step 5= Ocn)
readily muldread i	M-1=3 which is	1. The run time will be Ocn).

	4 a) n=1 witheral of C	Section of the section	b) if compareWealt([C1; C23) = "final"	veight some
	1). In fact.	olan B II had	Have an him charge	weight were
	We compare the first co second coin. If weight of t	is not equal for the	A CANADA HASA CO CO AND	> 1/4 1 1/
1.	second coin. It weight of t	ense a weight of second	if (ompare Weyl (EC1, C2; C3, C43	
	JA) I then we know the light one		if consumered (ECI; C33)=="	first wellt more
	the heavy one is genuine. I	their weight	and chito Ats	
	is the same we just place t	te 2nd on a side and	de (n) (190)	
(L(L)A)2	keep doing this experiment:		add C2 to Ac1	
	other com, untill me found)== "second weight more
	and which are counterfeit.	Then we pick a	HERMAN HARRIST STATES CO.	1 CSD C4 to ALJ
the keep value	genuine com and a counte	rfeit coin, make	The comparelly H (Ecl; (33)== "	weight more"
A = A	word them a pair, we call this !	page pair. Then we	as on them sald (2 to TAI)	
JAN OF I MOT	grab 2 unknown com and	compare them with	I supplie men es gours	
	the base pair. If the unk		Not swif composite Wezs H(C1; (33)="fin	t wift nove"
H value, It of	athan they all counterfeit,	if is heavier, than	add clect to ACI	
tus I Otherwise		use we need to	is ontelse and trion of	
the element of the	I weigh the pair and check	wheeh is genuine,	add 42 & c3 to AED	
wind element	which is counterfeit.		else 11 c1 = (2) 10: ()}	
	So for the worst case:		it compare Neight (103; 243) == "	first weight more"
	183 = 127 Al. We found our base case	cot last	add (3) to Act	1 5 1 1 0 1
			if compactleight (Ec1; (33) == "	both word + come "
1 H de == == 1	They both \$211-1.	Heart tool at to	a sales of Ladd CIR CZ to ACZ	24
3, 000 77 7			else if compare World (203; c43) == "seco	enduscid man (1
	3. The algorithm:	alan to	your and out to A[]	wegy wife
M	Convert the arroy to himmy	3111/1 80	if compareWeight (ECI; COB) ==	"both weelt same!
Mysterin gregori Leo. The man make	Comment and the second company of the second		add clac2 to ACI	ALL MARK
	at a mort good o others.	8	else (NEO) 0 : 8 90+5	
Timber to left of	3, W. Just every elements which "bil	Z = 1000 = -		111 4
	the array. And for these are	== OCLOSN)	H to track and chile d2 to ACI	inst weight more
delete net de te una				
111:	I convert from back A	(^)0_5	t sandadelite es dense t	
له ادما الدوم			add c3 de c4 to AEJ	
Just capture you		e e e e e e e e e e e e e e e e e e e	so the Surgest the algorithm	
	(456 th day)			n 25 @ 3
	step 5: 0(m)	7-	which is 4-1=3	
with the	- It run tene well be Our		N-1=3 which is a	ractly metch part o

	4.0)	[L="first weight more"	5. a) maran Algorithm: return ALO]
	OUN	R="second weight more" M="both weight the same"	Basically this algorithm will sust return -
	00.)(M= "both weight the same"	first element in the array. Since the arm
	8 20 0.73	(i = 2	has the size of n and there are at lease
1.0		(unile (; != N+1)	[n/2] +1 x in that array, also it's like a
		switch (Compare Weight (ECI; C=3))	uniform distribution, but with the probabili
		case L	choose dominant is n which can be
		add c1 to ACI	rewrite as 1+ in whech is larger than
		break;	$\frac{1}{2}$. $(\frac{1}{2} + \frac{1}{n} > \frac{1}{2})$. Therefore the probability
		case R	is at least &, and running time is O(1)
	O(n) {	add Ci to AIJ; add BIJ to AIJ	since return A[O] & O(1).
		break;	b) Algorithmi
so toruntine	den	case M // default	1. Convert the array to bonary (32 bits) enough
worst coase is:	O(n)	endswitch i++	2. Create a loop from 0 to 31, counter is "bit Index
ma which	h	i++	3. We put every elements with but indepo'ss 0 to left
motch pa	(a)	lendulate	the array. And I to the right of the array.
	Ou)	l baseParr = C1+Ci	HARRY MENT AND MAN SHARE
		while (7+2 <= n)	4. Convert binary back to dec
		Gwitch (Compare Weight (Ebace Pair 3 Ci+1, Ci+23))	S. Return He AL972e/2] .
	200,000	case R	Shaline 2
		add Ci+1 & Ci+2 to AEJ	step 2+3: 320(n) Thus is like a binary radix sort
		cose IV	Step 4. O(n)
	O(n)	if (Compare Words (EADD; (Ei+13)=) L)	Step 5:0(n)
	31.2 2004	add Ci+2 to Ac)	2. The run time will be O(n).
CATE		else	And since there are at least [2]+1 terms
		end Cz+1 to ACI endif; endswitch	of dominant, after the array get sorted,
		endstrich = 2	the median must be the dominant X, since
		enduhile	the worst case is either domants one the first
		(1++	half of the last half, but either these case,
	- 4	if(i== n)&	the median is still the dominant.
	(1)	if ((ompare Weight (CATO]; Ci3) == M)	Therefore the algorithm always returns the correct
		add Ca to ACI	answer and has expected-case running time Oc
		if ((onpose Weight (VATO); Ci3) == M) add Ci to ACI prolif andif	
		Creturn ACI	
		# p	

CC TA	S. a) Alline Afgorthm: return	L= "took Helph work" = 1	2.4
PERSONAL MANAGEMENT AND ASSESSMENT OF THE PERSON OF THE PE		R - Second world none.	
	Bourcally this algorithm will	M="both weight the same"	
A VIII CONTRACTOR OF THE PARTY	tint element in the winay	Tel	
A STATE OF THE PARTY OF THE PAR	The He size of n and t	while (7!= N+T)	
Commission of the Commission o	Unitern destribition, lank in	Switch (Compose Weight (ECI ; (?)))	
2011	1+2 20 thrown de seems	دميو لـ	
	remote us It is what	CJA of 12 bbo	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
The second secon	E. (2+2>3). Though	break;	
AND ASSESSMENT BOYCEY.	amer bo to test to es	case R	
THE RESIDENCE OF THE PARTY OF T	sine return ACOI & OC	add CI to ACJ; add BCJ to ACJ	(N)
ж; ³	b) Haggithus	break;	
	Convert the array to borray	case M 11 defoult	nalo sontino el an
A DESTRUCTION OF THE PROPERTY	2 create a loop from 0 to 31	CT to BLI	work we is:0(n)
2000 AAS 4	3. We got even elements with bot	Autimorana ++;	Notifier And
Fr. (\$3000) 140 Fr. (\$7)	the array. And 1 to the right	l endulate	matech part w
	MANAGE STATES AND	C based ar = C1+C7	(00)
وں	4. Convert brown buck to a	while (1+2 <= N)	a production of the following states and the
1	S. Return the ALTREP 2]	Guztch (CompaeNeght(EboceParr) (241, (243)))	2
1	Stap 1: O(A)	Case R	
to sold es	Step 2:32000) him	add G+1 & G+2 to ACI	The straining reduction
	Step 40 Cm)	C04C IV	
	Step 7:000)	(if (comproceMaph (EATO); (E1+13)=7=1.)	(N)()
, (N	1. The run time will be 0	add Ca+2 to ACD	and the second of the second s
AND DESCRIPTION OF THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER, WHEN PERSON NAMED IN COLUMN 2 IS NOT THE OWNER.	And some there are not loss	else	
	of dominant, after the ann	add C2+1 to ACI	and the second second
	te median must be te	C=+21989 Ma	- Control of the Cont
	the north case is either don	Lendyhile	
	half of the look half, but o	1+1	
	the median is still the dom	1-11:== N&K	
returns the conrect	Turfore the dearthin always		(1)0
SE LMINT THE DR	arsner and has expected a	CA of a blue	
	A STATE OF THE STA	The other of the other oth	
		(return ALI	