	CSCI 104 weitten HW#1
	Problem 1.
1	Parish La Frederic Print Commence and The Commence of the Comm
(n)	The while loop is ich w i=2, i=ixi
	Follows he pattern i = 22k
	terninates when 2° = h
	$2^{n} = \log n$
	so k≥ log, (loy, (n))
	Monce no. of iterations is (O(Log Log n)
[I]	De las la base
(9)	Approximately N/m = In value of i satisfying the cont-
Werk.	Executi losp runs 13 tinos.
	Since 13+23+. k = O(k)
TERET !	Total work = visio((m))
IN.	$= n^{3/2}.6(n^e) = 6(n^{2/2})$
(c)	Triple nested nanalogue in worst age.
	But each A[K] matches atmost one i value.
	Total inner leop executions = nx legn. i. O(nlogn)
	[O(nlogn)]
111	1 (6 -) (5 -) > 2 -> (Factor (1) 3/2)
(0)	Among genera (0 > (5 -> 22 -> (factor of 3/2)  mann loop: n iterations = 0 (n)
	hence total: O(n)
	Tarketona. [UCI)

Problem 2. (a) 1/vec (int=1-2-3-3-4-3 mell, inz=5-36-3 mell) Stop by step trace: 1. (1/00 (1-) 2-) 3->4, 5-> 6) · Both non-mell, so 1 - next = 11/ec (5-16, 2-3-3-4) 2. NAC(2-) (15-3-2-1) · Both you-frell go 5-> next = livec(2->3-> 4,6 -> nell) 2 /10C(273-54,6 -) mul) · Both non-ml, 50 2 - nex = lvec (6-) my, 3-34-> ney) 4. 1/10 (67 mll, 3-34-3 mll) · Both non-will, so 6 mont = Ivec (3 34 mul, mill) 5 · Nvec (3 > 4 > mb, mbl). . (n2 is mll, so veturn 3 > 4 > mll Worling backwards:

• Step 4: 6 > WONT = 3 - 4, 60 6 - 3 - 34

• Step 3. 2 - Next = 6 - 3 - 34 50 2 - 76 - 3 - 34 · Stepl: 5-next = 276-3-4 50 5-72-16-3-3-4 Hence mg. 1-15-72-16-33-4-nul

Step by step traces:	_
1. Nvec (mill, 2-smill)	-
ojn1== mll, so vehen in 2	
Are: [2-mill]	
Clare case -when 1st parameter is will refresh the	_
Second paremeter unchanged)	
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	Stephy step horces:  1. (vec (mill, 2-smll)  • 1/1== mll, so vehan in 2  Ang: 2-smll  (boose case -whom 1st parameter is mill, refraga the Second parameter unchanged)