Mon Tuc Wed Thu Fri Sat 09-CE -04(July) Ottestion no. 1: C) Cossect by Coxxect c) Incorrect because more time is beguised to convert base b to decimal within Kasatsuba algorithm. Bul multiplication deckeases-Question no 2: (a) Alapsithm def Distinct Usess (A): for i in sange (O, len(A)):

a=[K for K in sange (A[i][o], A[i][1]+1)] fo j in songe (i+1, lange A)): b=[l| ϕ s lin sarge(A[j][o], A[j][1] +1)] if (a[len(a|-1]inb) ox (b(len(b)-1) in a) Usess. append (i+1, j+1) betush Usexs

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Descriptions Input: A List of tupls Each tuple has a entring and leaving time.

Output: A List of types of distinct usess.

Usex id _ index of tuple + 1.

Each tuple compare with every
other in a list and checks if
they are distinct. If they are distinct
we append their uses id in the form
of tuple to users list.

Running time:

As it is nested loop, so its sunning time is $O(n^2)$.

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Question no.3: (a) Pseudocode

1. def Istaust Northy (t1, t2)

1. Toput: a tuple of two toads

11 Output: What one toad says

about attes and seture

tone if it is toustupothy.

_ num = 0

1. (def tood-to-toodComposison (toodslist) 2. Job i in sange (0, lengt (todslist):

3. fox j in sange (1, length (toddslist)).

4. if Tstautwoothy (toodst[i], toodstist[j]).

s. num + = 1

6. setusn num

Explanation:

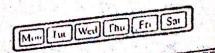
Function tocal-totocal Compassion compasses each toad
with every other tood: and checks
if it is toutwoothy using Istouthostry
function which seturns to if to is
toustwoothy and finally it incremented
Num:

Mon Tue Wed Thu Fri Set 2019-CE-04(SABA) We have exactly n/2 compasisons. As these are more tousuporthy trads, the output was at least one tood. We compasses two eonseartive toools if both are toustwoothy, we randonly Choose one from them and if they are different, ne removes both even toads (toadslist) if len (toadslist) == 2: 1. del (toardlist [1]) 4. too i in souge (0, leigth-1, 2) if toadslist [i] and toadlist[i+1] cise ζ. 6 both toust woothy del (topolslist [1]) else 8. del (toadslist[i:i+2]) 9. (C)
Pocedure:
I If we have only one toad in a lest, we setus the same toad. Otherwise we there if toad list is even on odd if it is odd we semove any one of the toad and work

The set of list ces in case of

Mon Toe Wed Thu Fri Sat 2019-CE-04(SABA) (d)
Proceduse:
Input: List of toads
Output: Single trustupathy toad: List is dividing after each iteration using algorithms described in prest (b) and (c) and we obtain only one toushworthy toad at last. Base Case: When longth (toods) - 1. The only one tood in a list always tautwoothy according to conditions. Inductive step and conclusion: If program works for n-K. Then it should work for N=K+1 becaus even-tools and odd toads divide the left after each iteration of while loop.

one loop iterates through list of toach. So, it is O(n).



Date: 2019-CE-04(SAW)

We can find all toust worthy toads by using toad-to-toad toads by using toad-to-toad compasison and Istoustwoothy functions. as in past a.