s. dos

who will pasted - 103 - Thompson see stream and (0) Leet code - 448 - Find all numbers disappeared in an areay. in as elgengliner body Commer Transpole of sout, in

End # find Disappeared Mumbers (Ent # nums, 2 2x num 3,720, int * return Size 5 8

Ent temp =0;

for ("n+ 9=0; " < nume Size; ++1) ? temp = abs (numscris) - 1; nums [temp] = abs (nums(temp] + - 1); J. (com) f

insert - ander = 0; semon size = 0 ? (C, p to grapes .p1) silver.

for ("n+ == 0; "< nums Size; ++1) }.

of Commercia to Se and

++ * semma size; nums Consert - Ender ++] = "+1",

con pa Many pays 24

return nums; I (HIPPY to elements) (t same pair a - of our modern signa .

(Mars land o 1 1) (10 (10 p) motor

In: [4,3,2,7,82,71] Out : (2)

1044; [3,6]

Lecteode - 103 - Binary Tree Zigzag level Order (0) Traversal.

int was Eigzag level Order (Street TreeHode + 8001; in manging, PM or or setum Column Stres) {

syrica Oliene 9, 1

etruci Rosult o' ind level = 0000;

Stones Palo c = Eavor, lavel 9;

memser (29, 0, size of (9,)); menset (2x, 0, stag(x));

abush (da, e);

while (19 empty (29,1) ?

struct Palor cur = 9,400 (29); if (curolevel 1= level) 8

g frun(80);

add (28, ever node -> wolve);

of (curonode -> left) 8 strong Polo n = 8 cur-node -> left, cmrolenge + 1 9;

q, push (dq, ,n);

3) (cure node - + 8941) 9

extract pair n = {cmrondole -> vight,

curolenel + 19;

9 pur (2 9, n);

level = cur lend;

11wh (28) * return Size = 8. Size. 3/00) Keek a setum Column sizes = 8 cols, for (e=1; 1 = 8-8:20; 1+=2) ? reverse (rostes), rocolstess; " 'BET TOUTTED to cocmon sos; Dilyer , Stone on the Moon of the In: [3,9,20, NUII, NUII, 15,7] Ous: [[3), [20,9], [15, 7]] In: Cass ous: teiss In: II Our E) P/15/24 the the the the popular and the same

(O) Leex code - 897 - Increasing Order Search Tree

SAMOR Tree Node of Protecting BST (SAMOR Tree Model 8004) 8 int are [1000], 1=0; in Order Chart our '86);

SAMA Tree Mode + node = NULL;

for Cink K=0; Kai; KAA) node = new tree (node, arth);

return node;

(cont 5) 3/4: [3/4: 50 com long 12: 4] Tree Mode & new tree (struct Tree Mode & grot, Street

int val) P i) (200+ == NVCC)

setur resoloce (val).

[(nay < 2004 -) nal) reat > 184 = version (2001-189, val);

snot a sight a venture (snot a sight (101).

e18e

1000 in Order (Struct Treenlode & 800+, ent arrow, en will A (2004 == WALL)

semm;

in Order (sout - left , or , i), 5 our [(46) ++] = mo+ and; in Order (rook -right, am, i); Onspira 1 Core 1 > Committed Bridge AN soot := [8,3,6,2,4, null, 8,1, null, null, null, null, null, 1,9] Out = E1, null, 2, null, 3, null, 4, mil, 5, null, 6, null, [P, 111/8, 111/5 Care 21-[5,1,7] Out : [[1, null, 5, null, 2) 8/2/5/24 3 (was) He plan in = end bothing J (CO) SHEW 66 (DOUS) 1 · (0) 46

(0) "" program to implement topological sort order.

the include <24 diohs

At include EStallibohs

define MAY 100

int adj [MAY] (MAY);

int visited [MAM)

int stock (MAYS) WHEN E HAM SI HAM IS

ina hop =-1;

ina n;

void push Untro) }

SHEEK [++ tob] = on;

int pop 10 }

return steck (top-);

1089 als (600 n) {

visited End = 1;

for (ent 920; fan; 94+) [

y (adjenser) dd juighted (200) (

[tom, 2, min, 2]

dy (\$);

push (m);

to bological Sort cof for (but , = 0; ien , 2++) { (11844) EN = 0; for ((44 650; 120; 144)) i) (I misted (1)) dys (i); where (10 1 = -1) 1 print (" olod", pob ()), pring (" ("). int maner (int edges, start, end; tring (" No. of Menter: "); Scary (".td", du)", paid (" Vla of Edder : ") , Say (" + d" , d edys); for lint i=v; i< edges; i+t) (poort (, exercy 9 end 1 ..); Souf (" +d +d", 8 start, send); adj (snown) (end) -1;

for head large aladon who low B Outbus No. of nertica: 4 10000 0000 No. of edges & 4 1 2 (40) (40) (40) Stars & end: Start 'S end! 2 A conference of a Steve I and: sours dend : 4 Topological sort: 12 30 # include < sAdio. hs # nelvole < gadlibih) int StUWI; in top =-1; world degree line adjences, in no p int indegree (20); ina sum =0', for Cint j=0; jen; john) potente prote 1) pour 2 mm = 0,1 for (?nd ? =0; ? <n; ?++) } Sum = sum & adj [IJCS]; to of Course capter si post mis my form of many by property for Cirt := o) ien (int) } () (in degree (1)=20))

inx moines bring ("Hooy Hocker"); Say (#8", dal) in al (502(50)) pring (" polonary maris"); Sect (" & Carrier extra that I have a restable for (in 1 = 0; ien; (++)) (and (and) and) for Cirk! 20 ; jan : jan) Say (" ad", 2 ad (3 (3)); part coprogical order: 1: digole (odi, n); No. of Modes: 4 Enter Masti 0 0 1 0 - (-00) Jun = 0) A 0001 of Circles forestern 0000 Topological Order

(ni) alopers

Sclection of Merge Sort 0

> # Prelude 28 kdPouhs # include = shellibohs

include < fineshs

world Solection - sort (Part arres, int n) ? for (int "20; ien; iso) { my sand some

hat min = E, i and company and

for (") = (+1; jen; ++) (((arrij) = arrims) (

min = 1;

int temp = arr Emind; who haspolates the first

ar ching = arr (1);

am (i) = temp;

merge (ent arrest, ent e, ent m, enarr) 1090

ainA n1 = m-L+1; 114 NZ = 8 8 - M)

fre LEND, RENZ)

for (in = 0; 1 cm ; 1 ++). Fli) = amcleti);

for (in) 1=0; icnz; itx)

Rin zarr [mx 12 1)

```
int 120, 500, K=1;
   while ( & en, sh genz) 1
        1 (LC) <= R(j))(
             arr [ KM ] = LTIMD;
       1 else 3
         arr(Kir) = R[jir];
  while ( r < n1) s
    ard [ KM) = ( [ (2) );
  while (genz) 1
         der [ KM ) = BE ( ) ,
rold which - Boux (got ourco? bus of sive s)!
    ( CORR) & Comment of the same
       in m = 1 + (8-1)/2;
        merge-sort - (arr, lim)
        murgo - fort = (am, mx1, r);
         words (ou 1, w 10);
     mondon ( ino am [), intal [ and a)
bion
      for (:n= ===) = <n; ===) }
         om[:) = rond() y= (~*10);
```

(word & ford - Heres) (inot), ins) , int armed, donne The state of the state of the state of Start = clock co; (17) bougher out us! end = clock(); redum ((double) (end- sterr)) / wen-per-sec; (My 7 19 - THEN THE int man or p int inform (=) (or) , or) , or) , record , or) ind nom ED = Size of (about) (size of (inputed); FILE Alp = John ("sorting mes csv', " ni"); if (1 ft) 1 fring (ff, " toper", severe, marge how); fool int = 20; 1< nom 1 (120) 5 ina gire = respectivo cis; (gire + sined (ina)); Int & dance by = maker (Hze & gray (int)) for (maj = 0), se sure; 124) 5 date - copy 150 = date [17; free Colesan, com com sign free (date-orty); ((of the) als () than = (1) mo Jelou (y1).

Ouspur 1-1 900 8120 Selection gor A 000002 1 every . 0 good o. wing 500 0.0005 1 000 2000 10000 00000 7144 2 3 sty 10 Company of the same of the whileday int book Click als and low May Shart for the state of the cani: Im down it (was = ? mi) = } in temp - 1 acres 7, di a Child = a Engle of chiques a stamp! ((Ti) rounge

Owick Gord

Include Rendiooh >

Enclude < Stallboh>

at Include chimeons

defene MAX 50000

my dar Chuses!

int Sizest = \$100, 900, 1000, 5000, 10000, 50000 (;

int num-sizes = sizes (Sizes) | size of (Sizestol);

int part Link aco , int low, int high?

ht biv = actight;

ins 1 = (100 - 1).

for (in+) = 1000; je = high +1; 5+1) ? 1 (acis < pro) (

int temp = acm;

مرزع = مرئع،

aces = temps

int temb = atit 1);

a (9+1) = a [wigh);

a (high) = temp!

seemen (:+1).

world agout (fint ars, int low, int high) products of (low < wigh) ? int bi = part (a, row, high); 9, sort (a, 10w, bi- 1); q Port (a, bit, , wight); sacreful parts FILE offer ("quek-csv", "" "")") J (1982) & perror (" unable to ober"); remm EYIT-FATLURE; forms (Jp, " sine, Time"), / for (int 900; ic gives; itt) } int n = 8 tres Cisi gen rond ar law, m?; meas the (grown, double time = Spring (yt, " dd, dod | "," h, me); John (ft); Jehn D.

Washington (for any of the season beautiful id-place (A. Mandal -Mand sports the state (admitted to the and the transport of and me all of the same (and of the (ford of of tot " of) founds

Meen-7 ADA Brute Force Substring Montching # Enclyde < Std Sooh> # Prelyde & String - 45 PM Bratch (char + tent , char pattern) & Void int n = strlen (text); mi of his) of him Ent m = strlen (patterns; for (24 0=0 , 1x=n-m; 0++) (for (== 0 ; ; < m; ; ; + +) } int ; of CHERT CITIS (= pattern CjJ) 8 break; 3 ((**) ; ~>; ; o=; ***) } send tidd conserve (136) fr ()== m) P fring (Paroun found !!); in main or ? clor terres = " Mello Bye". eno pather or sti hell", maken (Herr, parkens); remono;

Output Portsern found successfully (O) Johnston - Trother Algorithm # Enclude a stell o do noig for (but +b = som us & for (in 900 y gen; 9+1) "towny ("olad", p (3)); pront (, , ,) . int gon (in the int ad, into)? int m=1, mi=-1; for (int 120; ikn; itt) 9 1) (d[:] 20 100 20 pc: 3 >m) P m= þcij; serm wi! 800 (int da, int tb) void F= Loi, lynd way) wholey Ab = 4',

0

rd (ent the , that ad , int da , int m)? for (m+ 1=0", icn ; 7++) 1) (P(13 2W) gris = igels; vold it (int n) 8 in bons, dons, pr (804 1=0 ; 1< n ; 244) PCPT = EAI, dCM=1; ps (b'u); while (1) 8 int mi = gm (p,d,n); J (m; ==95-1) Jan n= + tmi); (If (demis)) } 2 hi (d p cmi) , d p cmi - 13); 8 1 5 SW (8 p cmi), A d tm: 177, eldes 3m (2pcmi), spcmi 213); su ed demis pld (mi+1); Ad(bigium),

buckins;

34(4); end not not be not for not be blow in morror setum o, (not Estat) It · 67061 = 6774 Oughusi 1 (mas) to blov 1234 (267; n=1; 0=7 AN) FO. 1423 1= 123 - (1) - (1) 4123 (a, d) of 4132 8 (1) sillion 4 32 1342 31 42 3124 1324 Ciralforn Page The later of Compton of 1 2 34 213 461-100 d big (100 d b) 1N2 2143 Sur (3 pens), a detent 241 3 4213 (Corb ma) of 6 , Cinsof 6) we W231 ((C) = m) & & coms 6 5 102 2431 2341 3214 2314 2134 1239

Leexcode - 1985)- Kith larger Elemen 0 int comp (const word + a, const word + b) ? congs characters a de (const character) a; const char a stre = a const of (8 Arlen (8 Ar 1) == Sorlen (8 Ar 2)) return 2x cmp (8x1,3x12); . De sum sarlen (8 dr 1) + strlen (342); (now or Kor long (char do nons, in number intre) of sort (nows, nowshie, sine (chare), (mt); return nous tromssize x 2, P. 316/24 Tresa (carel) Japua: numt ~3", " 6", "2", "10"] O wiput & (#3" soi (CJB on) 24 whom Input: nums = ["2", "21", "121", "112", ","] W = 3 () de onapro = ,5 Tuput : "Noms = ("0", "0"] Cook as the Adai 0 -1/20 - () 0' - D) of a

```
ADA - Week 8.
(0) Heal Sons Technique Using is
   # include < std'outs
   It include x timests
              3 421-162 40 61 de 3 451-18
   void sup (intro , int + b) ?
          int te tai
          ta = +b;
      (comes) 4px = tyl mas mas mas
  void up (in a co, int n, int i)
(40) (4 1649) 1845 = 16/3 (2001) (2001) (200)
         int 122 $ (2411) Limite month by
         in 8 = 2* [* ];
       if (1 < w DV acc) > atimes)
  voide he (int all), int m) p
       for (: ux = 1/5 -1: 12=0; i=)
            rp (annil)
       for (int i = no1, 120; im) (
            20p( gaco), g acis),
            mb (a: 0)
```

CHICOSH " BKA (4") June of morred ? ins als = { 12,11,13, 5,6,00}; int ~ = sine of cas 1 sine (acas); clocket st = clockes; ns (a,nso, clock -t en = clock(), double ++ = ((double)(en-8+)); point (" sorred overay"). 0. sermen oi C1000p = 5/2536 Onspra (th) month Source aread: 56 A W 12 13 Time Taken " 0.000 321 geland 1311 - 1 dr 34 c, 2 0 3 4 3 6 (a) 3 honors Pater using Flogd's Algorithm # include < gtd: o.h.) # define INF agaga # define 1 4 Moral paper (int 9 EDEND) & fring (" shorter destance : (""); for (ma 1 = 0; (c x); 144) } 1 (9613 Cb) == 241E)

pand ("1.4.49", 90,30/2) Land Control of the state of th Purl (. 10.) ! 1 19 mols = No F 45 0/3 word for (int general) (int devotus, +, j, k; = 11 1000 for (9=0; : 24; 324) (mod ") from for (9=0; 3(1; jest) (de ê 30/3 = q ciscis; Sources outsid: print (a) E1 81 11 13 13 ina main (1) 2008 15 15 16 1600 16 int 9 END CUD = & & 0,5,7 NF, 16], \$ INK, 0, 32 -1x12/ } JNF, JNF, 0,17, { INF, INF, INF, 011} Jes (g); of CENSELP part and other (" al a smarries without 1) forder 1 (00) (20) (car) 300) ref (441 = : (7) (1) 6) 1

H6/2/5A P-NISHW GOG Out and (3) Implement unopsace groblem o browner back Shorous Distance: & Choolsto shilsof #. 5 I (d ANE (10 118) WHEN AND JNF 0 INF ZNF (FAR (de O) mondon JMF JNF But make (but my but motes , but mores the us (co of the Chapt (C(4)][141] + 463 Heap Sorx \$ (++) (n=>) (a=9) 10 & Chita : Was as ; oca as) rd 4 (0 == W 11 6 = = 1) /1 0.003 (o a Constant 0.002 0.002 CH => 4/1) + co) / 28/2 KC JEMS = CHO CHOICH-13 4 KC 0-0015 0.601 0.0001 out out out out out out out 0 2016/24 BETHRA 18 (47) [43; main El 9 1 8001,001,00 } = 62100 1/02,00,00) = C3+0

25

ADA Week-9

4/2/24

(26)

(@) Implement Knopsack Problem using Dynamic Broderammend -

Include X stdio. h)

But was (but a but p) of semen (axp) } a &p;

Knap (Port W, Port woter), Port MONEZ, Port n) & PA But a w;

But K (441] (m 4130)

for (=0; (<=n; (, ++) { for (w=0; w <=W; w++) & i) (9 == 0 11 M== 0) ;

e18e of (w+ CP-17 <= W) KC: J(m) = man (1101C;-1) + KC;-1) [w- wtt2-13])

Kasam = Ka-13 Cms;

geturn K(n) (us;

Port main & ? in vales = of 60, 100, 1204; fine wtld = 210, 20, 304;

PAN = Stred (non) | 3:20 (non (03); poul (" wax notice alog " knot (m's cot ' noi ' w)); actual 0: 4/2-1-2-1-2 kond Duspak 1-3 C TEMPTED brown Max volve En Knop sock = 220 AA) of fregues Hidosophias to afford the Implement (0) (1- = 60) mad MST. 3 (tot to) 1-42 day (0= to) to) 80-Commin o H AN # include <8+00000 # Frelude < 19mg Hoh) WELL CHO = HAVE, # Prochable & Std boolah? # define N 4 1 2 1 (0 = v + 19) 80) PAT O CADEAD CAD LAN HE CADEDO ent par (4); int Key [Y] biol mat(V); from the roll (1). int orankey 10 of Post men = INT_MAX, men sidx; for CENA N=0; NKN, NAT) & CO NEW MAS if (jmster) && keyer) cmin) fred of min = keyer), min 1dx =v; setum min-ior;

d printing () {

print ("Edge 12 magnin");

for ("m"; = 1.", "e", "m"); 02 = 14 BM (1) pring (" 1-d - 1-d (+ 1-d (n", pas (1553), - (Inding primMST () & for (PA 2200; ix V; iAA)

Key Ci'S = INT-MAX, MET Ci'S = Joise; Key cos = 0; 4 20016 2 20000 t-namaldmL · 1211 for (Pot cot =0; ent <4-1; ent +4) { Port 4 = mankey (); (No Him?) > shulson to

met (U) = +me; (No Him?) > shulson to

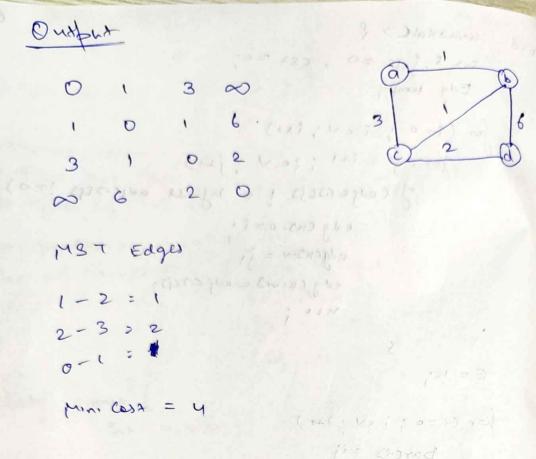
enough to be shulson to for (ent v=0; v < V; v+n)

for (ent v=0; v < V; v+n) partus=4, Kay Ens = genseus, Ent parcell! in med (x3) क्रिक लहर ए? ilystem und (Not nom , * MATHE = Nom *No fiel fellans to for Chat we will see with the way of the part of the see with the see (YDI-Nim De tron

l (0, 2,0,64, 29 12,0,3,84, 50,3,0,08, Anamaldras, (0) 26,8,0,017 ewoodbass ghulant m primeristo, out rom englob to PPP 19 27 2 1 16 H & sexum 0; is postmers, i as & contract is = (sangle am) Pag + A" 6 8 3 Curput hleigh + Edge 1 W, W, N BA 0-1 Edg edg (nors); 1-2 0 - 3 9 (3 + 13) Silf to (1 = 1 Ci) rud) slides @/7/24 (Corod = ? Jems in 9 (1 mi 13 mi) sou bion ins b = find(1);

ADA Week - 10 " " " " " " [] [] 18,5,0,0) 10:0 Knuska (6) , yn blewent Kerrekalis Bidoughnen mind "G., Edg 1, 10,0,8,9% low (6-# Include astallooks COTE/7 Myod It defene max 1000 # define in 999 of gethere Of int partmars, V=4, E; int adj [max)[max) = { {0,1,3, in 1, 81,0,1,61, 13,1,0,22, { in , 6,2,01] thought typedof struct & Kleigh + 569 J Enx 4,4,4 ; por (1 Edg; Edg edg [mar]; int find (int i) ? orphile (boaci) [=i) i = parcis; setion ; uni (int i, int j) f in a = findle); ins b = find(j); parcas = b;

dustry of @ 2010 Knuskale > { the 1, 1,10 00 , C8x 20; Edg temp, for (100); ? en; (11) for () = 141 ! ! and ! ! in) of contents i = int or ordersels 120) 5 edgenson = [] edy [kim] = adj Eis (1) 1 : 1-0 E= K, for (1=0; 1 eV; 1++) pareis = "i (8) Taplemen Distral broing ("M37 Edges : (h"); fring (" men casa - 1.d /n", (SA)? 7 int doot End, nis (4); maine 1 & 0,0,00,00 (0) & = (2000) Mappy Mi Kindal (1,10 1010) semmo 1 0 1001 15,0,00,00,001



Glowyru mind . c. (0) Implement Djustras It helade < 3 telo. h, # define 11 5

dojne in agg

int dust END, MISCYD; in graph (1) (1) = 2 do, 10, 20, 0, 08, (10,0,0,50,108, 120,0,0,20,331, 30, 50, 20,0,21, {0,10,33,210[1]

win pist () & in min = end, min-ede, us, for (100; NEN; 1140) (C) 11:8 (11) AT 9774 (12) " undy of = 12" sexus words) djisma (ivit suc) & noid int dis one, u, w; for (100; ie v ; 120) grancis = ing 3 moces = 0, ops+[226] = 0; (cn+ =01, cn+ < 11-1; cn++) ? U = min Diste); 11:> CA) = 1; poord (nearex Dist from ger (",) Jos (i=0; i cV; ixx)

Jorning (" d-d (+ d-d (+ ", i, descis); ing woon co & digustra (0); Semm 01

DIDE food 18 Sec 1 = 1 (0 2x) 20 C1 18 EUS & 203 810 13 10 2 45 20 possit Co needs to prot from sic (1, 1) (113 1006, 5, " of b-1- +/ b-1-) pring 1 the same of the same COD STRENGED