Assignment G. Karthiz API 9110010320 CSE-F 1a) # include (stdio.h) void binary-search (); int a [so]; items, toe, beg, mid, end, i; Void main () Print f ("Inenter the Size of an array"); & conf ("1-d", &n); Printf ("In criter element oforway in shorted torm: 10"); for (1=0; ikn; i++) { conf ("1.d" faci); Printf ("In enter item to be & corcled:"); S conf ("1.1.d", & item); binary - Learch (); getch11; { void bin ary search (); 1 bcg = 0 endth-1 mid = Clocg + end 1 /2;

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while (1 beg 2 = end) & & (a [mid]!=itcm))
  It Citem La [mid])
     end=mid-1
   eise
     beg=midtl
      mid=lbeg+end)/2.
 24
  if cacmid] = = item)
   Point F (" In In Item Found at location 11d" men
  cise
  Printf ("In item doesn't exist);
(b) # include (statio.h)
     Int main (
     intarr C10];
        int sum, Product, i;
    Printf (" in enter elements: \n');
      for (1=0; 1210; 1++)
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Print F C'Enter Orr [:/d]; i); 10 Sconf ("11. d" & ONY CI]); Emm=0; Product=1; for (1=0; 120; 1++) Sum = Sum+arvcij; Product = Product arrais; · Printf ("In Sum of array 15.1.d", sum) Printf Lolon Sum of array is 11d' Product Veturno; 2. # include < state h > I include cetdio. b) 11 merge two subarray of aVIE) 11 First Suborroy 15 arr [tatt, -1) 11 Second Subarray is our conti, -1)

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void merge Cint arr [], int 1, int m, intr)
   int i, i,k;
    int n= m-1+1;
    int n2 = r-m;
     Int 2 Cni] (R Cn2];
     FOY C 1=0; ( Kn1 x ++ )
     . 2 (i) = ONT []+i]
   for (5=0,7 < h2) ++1
        R[i]=or [m+i+j]
   1-0: Cintial index of 1st subarray
    1-0; Cintial index of end subarray
    K=1; l'initial index of merge subarray)
  while Cisniqquenz)
     it (LCiJS=RCiJ)
       else arrend = Leij;
       arr [K] = R[i];
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5++; K++; while Cjanz) QIV CK]= RCj]; Void mergesort. Cintarre], intlintr int m=1+(1-1)/2; :001 merge sort (arr, 1, m); merge sort (arr, m+1, r); merge (arr,1,m,r); void Print array (int &c), int size for ci=o; issize; i++)

Print (C) 1.d", 1 (13); Pointf Cight); lint main () int arr [] = [1.2,11,13,57,6,7]; intany-size = size of carry size of arrow. Print F C" Given array is In") Print ("Given arras Print array (arr, 0, arr-size-1); . Print C'In sorted array is In"]; Print array Carr, arr-size) return o' [] your o toi) your toid 3. Sclection Sort: # include estations void swap cint* b) int temp= *a; 本の二半り * b=temp

void selection sort (int array [], int si torcintstep=0; & tep & size-1; step+ int cmin-idx=step; For Cint = Step+1; ixsize, i++) ¿ it Carray [i] < array imin-idx] min-idx=1 Ewap (& array [min-id x], qarray (step). 4 (3112-170 , 100) porco fo Void Print array (int array [] intsize) for cint 1=0; 1 & Size, 1+1) & Printf (1:1.d', away [i]); Frintf ("In");

int main () int data [] = {20/12/10/15/23: int size = size of data / size (data (1); Selection Sort Codatay size 1 Printf c'sorted array in assembling order Print array (dataisize); 1 ++11021 (3=1) 101 3. # Include 2 math h) # include (stdio.h) void in sertion sort cintarresintal int i, key j; For Ci=1; izn; i+t) Key=arr[i] while Cs>=0gEarrEijskey) iti] = arrei

arr Citil Key; void Print array (intarrellinta) 1012 to h) mxxxx 1. For ci=o; ixn;i++) Print f ("11.d', arr [i]); Print fc"in"); int arr [] = { 12, 11, 13, 5, 6); Int n=size oflar) (size of arrCo) Insertion sort (arr, n); Print array Carrins; returno;

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gei) trinclude (sldioh)
    Il Include smath b)
     int main ()
     int acz, & 16,19,11,15,10,12,143
     int his
     FOY CJ=O; i 27; S++)
       Int SwaPped=0;
      1=0; (100000 for
       while (ic7-1)
      Eif cacijyaciti]
         Int temp = acij;
           a ci]=aci+1];
          a [i+1] = temp:
          Lug PPed=1
        ٤ ١++:
       3 IF ( Ewg PPed)
        break.
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Edubles elebon for Ci=0; 127, 1++) Point F ("1.dIn", aci]); returno; 4cii) # include (stdioih) # include (math h) Int maines int a C] = { 16,9,11,15,10,12,14 Int i,s. For (j=0; j < 7; j++) 2 Int swapped = 0; 1=0/199 while Ci(7-1) if cacij > a citi]) int temP=acij; aci] =aci+i]

a citiz = temp; SwaPPed=1; 3;++; it (: swapped) break; joilann man 1 for ci=0; i(7; i++). Printf("1.d/h"; aci3); returno; 40in # include astdio. h> # Include Lonio. h> stolen H- (Til int num, even-sum=0, odd Prod=1, Yun, temp; Printf c'enter any number: "); Scant (".1.d", & num); while (mm 30) L num= num 1/10;

if c vem 1. 2==0) even sum = even sum+vem; clse odd Prod = odd Prod Yem; humps = num /10; Printf ("In sum of even digit="1d", even Print (11) n Product of odd digit="14"odd getch (); returno; 4(iii) # include Let dio. h) Noid Swap Cintx x Print yp) 2 int temp= xp; XP= xyp; * up = temp!

int ini; for ci=0; ikn-1; i++) for ()=0; Jan-1-1; i++) If (arr GJ > arr Gj+1]) Swap (& arr [j] & arr [j+1]); Void Print array Cintary [], int size) Emtitude size of all thirt for Ci=o; issizex i++1) Printf (1.11 dt, arr Ci)) Printf["In"] 3 int main () ¿ int arr []= { 64,34,25,12,22,11,90); Int n= size off carr) size of arr(0);

Subble sort carring;

Print F chisque darring;

Print array larr; n) return 0;

S. Hinchide Leddio. h) Void binary - Search Cint Wint, int, int). Void bubble - sort (intc), int); int main (1 Int Key, Size, ij Int list C25]; Printf ("Enter Size of alist"); Scanf ("11d'ty sizes; Printf c 1' Enter element s/n"); For Ci=o; iKsize, itt) Scanf ["1.d', & size 5+Ei]) bubble - Sort (list, size); Printt 6" In" 1; ... Printfc"Enter Key to search \n' Scanf C'1.1.d', Key); binary search Crist, o, size Keyl;

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I void bubble . Search Clist, o ! Size ! Key);
 ¿ int temp.i,i;
     for (i=0; 1 < size i +t)
     ¿ for ci=i, i «size; i++)
   2 I+ Clist (1) > list [j])
        temP=list Ci]; ag
         Pist Ci) = Mist Ci]
           list []] = femp;
  Void binary search (int list (), int to, intry, intry
     int mald i
       if Clozilli)
       E printf (" key not tound In");
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3 else if Crist cmid) > Key) binary search Clist, loimid - 1, Kay Clese if (midj Kkey) binary - Search Clist, midti, hirk