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DSA assignment-6
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(a) # include & stdio. h? | CSE-F
        Void browy - search ():
        int a [50], n, item, loe, beg, mid, end; i,;
         Void main ()
          Aint ("In Enter the side of an array");
          scanf ("%d", +n);
          Prints ("In Enter elements of an arrayin socked form")
          Fox (i=0; 1cn; i++)
           scanf (":1, d", ta[:]);
           Prints ("In Enter ITEM to be searched:");
           scanf (" ". d", 4 item);
            binary - search (1;
            getch (1; (1) wet . " bar")
            Void binary-search ();
                     ( + + 1 ) 0 1 : 0 = 1 } = =
             beg = 0
              end = n-1
              Mid - (beg + end) In:
            While ( 1 beg = end ) 44 (a [Hid] 1 = item)]
              of (ibon La [Hid])
end = mid - 1;
                 beg - mid+ 1
                 mid = 1 beg + end /2
              3
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if (a [Hid] = - item)
     Prints ("In In ITEM Found at location "d", mid+1):
     eise
       Printe ("Inin ITEM doesn't exist);
                              all ham bu
    # include < stdio. h> d y day
6)
      into main ()
   Somble (" In Inter elements of an anagin I the
       int sum, Pro emctio;
       Printe ("In enter elements: In");
      fox (1=0, i<10; i++)
                 ((media ." b . ") Parx
       Pents ("enter and [1/d]:",i);
        Scanf (""/d", + am [i]);
         Sum = 0;
         Product - 1; " manual grand tow
         Fox ( 1=0; 1 40; 1++)
        5
          Sum = Sum + aw [:];
          Product = Product and [i];
            Print P (" In Sum of array is: ".d", sum);
            Print F ("In Product of amony is: "/d (Product");
          report o:
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2)
                           # include L stdio. h>
                           # include (stdio. h>
                              11 Merges two sub arrays of arr []
                             11 Parst Sub away is axx [1...m]
                            11 second sub away is an [net 1... x]
                            Void merge (int an [], int 1, int m, int x)
                                          int i, ; K;
                                           inb h2 = x-m;
                                             int L[ni], R[ne];
                                             For ( i= 0; izn 1; i++)
                                              L(1) = ane (1+1)
                                             fox (i>o; i<no; j++)
                         R[i] = an [m+1+];
                                                i=0; (initial index OF 1st subarray)
                                                  i=0; (initial index of end sub array)
                                                  K=1; (initial index of merge subarray)
                                                  While (i kn, 1 44 i kna)
                                                        i if (2(i) <= R[i])
                                   0xx [e] = 2 [i];
(a) on the said the said to the transfer of the
                                             an englished of the state of th
                                                                          CISC MARKETS IN
                                                                           axx [k] = R[i];
                                                                          3 3++;
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While (j kna)
                    Khiotol & dulin' 4
     axx [1] = R[;];
            not be experted to be figure !
       K++;
   tradition of goods bross
Void merge sort (int arr [1], intl, intr)
         ; (12x)
          int m = 1 + (x-1) /2);
          merge sort (arr, 1,m);
          merge Sort (arr , m+1, x);
          merge (arr, l, m, r);
         Yord Print array (int +1), int size)
        { del 70 admi rodar) 10
         inb i;
         dox (1=0; 1 < Size; 1++)
         Print ["",d; P[i]);
         Pants ("In");
          into main ()
          int axx [] = { 12, 11, 13, 5, 6, 7 };
          int arx-size = size of (arx) / size of arx [o];
          Pant F ( " In Sorted array is lu");
          Pant F away Carr, arr-Size);
          setum o;
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selection Soxt :-
    # include estation >>
      Void samp (int *a, int *b)
 Clus subl m
      inb temp = ta:
d'orabo a a tiber para badre de dans
        * b - temp are pasted provided
        void selection sort (intoway [], int size)
                     include I shall in
         Por lint steP = 0; steP & Size-1; steP++)
         into Lmin - idx = Step;
          Pox (int i= step+1; : LSIZe; i++)
          if (array [i] Larray (min - idx])
          Min - idx = 1; (F1) (0-1)
           Swap ( array [min -idx] array [step]);
          3
                       (setsi) wide
           Void Print array (int array [] int size
            For 1:n. 6 1=0 1 × Size; 6++1) {
            Prints (" 1.d", array [i]);
             Pront P (" In");
```

3)

```
into main ()
     int daba [] - [20,10,15,23;
      int size = Size of (doba) Isize (data 10]);
        Selections (data, size)
       Point ? (" sorted away in asending order In");
       RintP away (data, Size);
4 (:) # include 2 stdio.h>
    # include Kmath.h>
        internan ()
     int all = {16,19,11,15,10,12,143;
    ( Exp. ! ! ! ! ! ! ! [ Entry ]
          Бх (j=0,j27;j+) «М
           int swaffed = 0 ; 10
  (144) ( 1=0;
           while (: <7-1)
  int temp = a [i] : I do !
              a [i] = a [i+1];
              a [iti] = bemp;
              SwaPPed = 1:
```

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1++;
          E : A ( e Swapped )
                       solded will be
            break;
            Fox (1=0; 167; 1+1)
             Prints (" ".d In", a [i]);
              Jeburn O;
                Constitution of the
   ( 11
          # include < stdo.h>
          # include ( bonio. h)
       : [ &: ] wo + Fil we + 9000
           int hum, even sum = 0, odd Prod = 1, xen, temp;
  Print F ("Onber any numbers;");
           scanf ("0/0 d", 4 num);
          Pohile (num>0)
         :(1910
              8em = hum % 10;
               if (8em.1. Q ==0)
               even sum = even sum + rem;
             95
               odd Prol: odd Prod * sem;
100 num = num 110;
             4 0 0000
             Printe (" In Sum of even digit: "d" en num);
     Prints ("In Product of add digit = 1.d", add Box).
             getens;
             gefamo;
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111)
       # include < stdio.h>
        Yord Swap (int x P, int * yP)
          int temp - * xp;
           * KP = * YP: 11 11 11 11 11
             up = *temp;
             for (1=0; 124-1; 1++)
             Pox (j=0; j Lu-i-1; i++)
               if (arx [i] > arr [i+i])
                 swap 4 an [;] 4 an [;+1];
  amed mer distants who work was been been thems
                 Void Print Array (intarx [], int Size)
               Schown har required
                 intil but I found
                  Fox ( i=0; i < Size; i++)
                  Prints ("", d", are [:]);
                   Prnbf ("(n");
                   int main ()
              more a 202 was
                     inb arx [] = [64,84,25,12,22,11,90]:
          int he size of F (arr) | size of (arr [0]);
                 bubble sorb (and, n);
Printer sout (and, n);
                  Print ? ( " soxted array: In");
Print F Anay larring;
                   xeturn o;
```

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5)
       # include < stolio. h>
         Void binary - Search (int[], int, int, int);
          Void bubble - Sort (int [], int);
          int main ()
( sint Key, Size; is some pand to
            int list [25];
            Point & ("enter size of a list");
              scanf (" ", d", 4 size);
             Printf ("enter elements \n");
              fox ( i=0, i≤size, i++)
               Scanf (" ". d" 4 hist [i])
              bubble - Sort (list, size);
          Privot (" (n');
               Prints ("enter key to search in");
          Scanf ("1.d".key);
               binary - search (list, 0, Size Key);
 chest Lord with and
                 Void bubble - search (list, size, key);
          inb bem?;;,);
100 (i=0, i2size;i++)
                  Pox (1156 [1] > 1156 [1]
                 5
                    bemP = list [i]; ag
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[i] deil - [i] deil
                        Knight a string to
        list [i] = temp:
       and do all dail due a mount to
     3
                         La man di
    3
   3
     Void binary search list [] intilo, into hi, into key)
        inb main;
         of (10 > hi)
         Fine Edward Salas 'I This
           Print F (" Key not found In");
           sepsu:
            mid - (10+hi) 12;
           if (list [mid] = = Key)
              Prints ("Key Pound In");
             cise if [list [mid] > key]
           BARTER SULTER (Hisb 3)
               binary - Search (list, lo, mid-1, key);
- I per ost de 1 3 de por a madra Lou
               Cise of (list [mid] (key)
                broary - search (list , mid+ 1 hi, Key);
           10, 10, 10, 100 (c)
```