Selection Sort for longe inbuts.

# Include < & tdio. h>

# include < Stddb.h>

# induste < time. h>

void sugott. (int n, nt all); 1800,

int main () d int a (15000], n, i, i, i, ch, temp;

clock - + stort, end;

While (1)2

Print + ("In ; for manual rithey of N value and array Elements");

Print+ (" \nz; To dightay time taking box in the range 500 to 14500);

Print+ (" [n3: To Suit ");

Point + ("In Enter Your Choice:");

Scanf ("1.d", geh);

Switch Con) (

case! Prints ("In Enter the number of Clements:");

Sconf ("1.d", 8n);

```
Prints ("Enter away Elements!");
11. 1002 for (i=0; 1<n; i++) (
     Sconf (1.7d", Basis);
Stort = colocie ();
         Selsort (n, a); 0001 = +11
          end = clock();
       Print f (" In Sorted average to ");
    / for (1=0; 1 < n; it + ) L
            Printf (and It", a cis); 4
                     (a) they
      70 3 mit
     Printf (In Time token to sort I d numbers
          is 7-4 Sees", n, (Colombe).
       (and -stort)) / (wells-PER_STEC)
                             netum o
       break ;
    cose 23 ([] a toi (n toi) tracte (b)
    n=500;
puile (n == 14500) [ i tri
            for (1:00), ient, 1:++) L
              ali] = n-13 = 201
               Small = alis; or
      Soart = clock ();
       Seleort (n, a);
         for ( 1=0; 1 < 500000; j++) [
           temp = 38/600;
```

```
end = Cloude (1)
   Printe ("In Time taken to Sort 1)
    (Colouble ). (End - Stort)) / Clake PEn.
   n+=1000; (0 00) + 0268
          end - choles; f.
  break green behal a/ ") + tring
            26 + Hins ( 10 -; ) 80%
      Care 13 0; 11 +/ blad Hring
    Exit (0).
  south ( for Time dolan to soot + of numbers
   Colonget char (?) sus 2, + F &
Cond - stort)) / Chock {- PER_SEC)
   roctum o;
                             i Hand
   void school (int n, int a CJ) ( sea)
       Int is job to Small , Pos;
       dor (1:0) 100, 51; 1++) 2
             POS = 1:1 - 1:12 = 209
             Small = aci];
            for (5=1+1; skn ) 1++ ) [
                if (aci) & small) 1
     2 (+) 1, 000000 21 5 Small, 9a [3];
                 2 3 - J
```

t=a ci]; acija acrosj; Ocros Jati, monero o 10000000 to 1000 of 4500 wholes Is a cocooco Di sedocoolog il med manual Entre of N value es a coo and, away remented his of welch you Time token for for Sorting range 500 to Riemantio & N in the Case 0001 14500 Three faters to book 10500 nowhere 70 Suite o is rodnou obell trois at met of ent 33 119 Sorted armay is: 11 22 33 44 Euster your Choice: 2 Time Taken to Sort 500 number is 0.000000 Segs The Taken to Sort 1500 number of 0.000000 Segr The Taken to Sort 2500 number in

6-018 0.000000 Sug

Time Taken to sort 3500 numbers is 0.015000 sics 209713 Sort 4500 rumbers 4 0,0000000 Thre token to The token to Sort 5500 numbers is 0,016000000 The tolento bot 6500 numbers & 0.015000 seg The taken to Sort 7500 rumbers is 0.016000 Seg Time taken to Sort 8500 Numbers & 0.016000 Seg Time taken to Sort 9500 Numbers 1, 0.1031000 Ses Time taken to Sort 10500 Number ug 0,047000 Sees The token to Sort 1500 Number is 0.04,7000 Seg The tolen to Sort 12500 Number y 0,047000 Seg The token to Sort 13500 Nomber is 0.046000 Steg Time taken to Sort 14500 Wonster is 0,63000 seg

Son red array as : 41 32 33 fel

Enter your choice: 2 Theen to sort soo manber is

The Token to soit 1.500 number of

The Token to Sort 2500 numbers in 6-018 0.00000 Sug

Time token in Sig 1002 sprang 0.5 0.45 < N. Osbarken 0.4 22 della 0.35 0.3 0.25 (thi thi 6,2 10.15 le doite 0.05 ( C) rimoral frig i dont 0/ 1000 20000013000 Charle \_ ti) Stoods ( to sport) 2 (1) stand Parint & (alus 101 : 101) of the of and assist bledred "): grital not metal supplied of : sal ") frint. runnian of Europe Win the range 100 to 14200 )? . 1009 mint (u/n3 : To fait) ; sul Pront ( " In Enter your choice: "); Sunt ("Hd", Sch); Janes Cass

2) runge soot

# include 28tudio.h>
# include < Stollib.h>
# include. < time.h>

void Stat (intEJ, int, int);

Void State

Combine (ontEJ, int, int, int);

int main () &

int a [15000], n, i, j, ch, temb;

Cloue \_ t', Skort, End;

While (1) S

Printf (4/11: for manual Entry of N value and armay Elements ");

Print ("In2: To diethay time token for Sorting number of Elements N in the range 500 to 14500");

Print (u/n3: To snity);

Print (" In Enter Gover choice:"); Swart (".1.d", 8ch);

Switch (ch) L cose 1:

```
Print of ("In Enter the number of Elements:")
    Scanf (und , sm)
  Print + ( "Enter array Elements.");
     for (1-0, 1 < n; 1++ ) &
         Sien & ( " of di), ga ( )
    end = colock ();

end = colock ();

Printf ("In Corred arrang ig!");

Ci=0; 1 < n; itt);
    Print+ ((a)d)t", a city;
Print f (" In Time taken to Sort J-d numbers is
          11 des 11, M. (C Cdouble) (cond-stort)
     / CLOUL_PER_SEC));
      n= n+1000;
   break; CBD. [1]
        buit (o); citt
    gircum (CD) 1 Chim (1)
  Deturn 0;
  void Strit (int. act, lest low, inthigh) a
int mid;
```

it (low & high) L' ) to mind split (a, low, mid); Stat (a, mid+1, high); Combine (a, low, nuid, high); Voi cl Combine (int al), int low, Intrid, int high ) of 1

Int C [15000], j, J, K, ]

I= R = (000), while Cicenid 38j <= high) L

14 a Cacio Cacio Cacio Do inois-bros ( stands) ) CER J'= a Gi]; 1 CCOOK - (14th SE 60)); clijeacji Dile (32 = high) Louis CERJ=alij; ttles is mortion void such ( the aco, lut low, int high) &

for a Ci-low; of cehigh witt) Des stocom de acides Coid, tros de motor enti The steer for soort 1500 hours and and mil Mustaken to sort 10500 number of Bo.000 546 see output i normal Entry of N value and Ed so so averag Plement to a myst and 2. To display time taken for Sorting number of Elements N in the range 3: To Shit Enter your choice:1. Enter the number of Element 4 Enter army Elements: 144 33 22 11 Sosted averag is 11 , 22, 33 44 Time taken to sort he number is 0.0000012 Sus Time fatur to sort 600 number is 0. 00269884 Enter your Choice: 2 Time token to sood 1500 number if 0.00290784 number 4 0.00329184 Time token to sort 2500 Time token to Sort 3500 number ig 0.00303729 Time token to sort 4600 number is 0.00282650 The taken to Sort 5500 number is 0.003703sy Time token to Sort 6500 number ig 0.00302/seg

Time token to sort 7500 number is 0.00374 The taken to Sort 8500 number is 0.003072 0.003144 Time taken to sost 9500 number of The taken to Sort 10500 number of 0,003546 su Time taken to Sort 11500 rumber is 0.003321 Sey 12500 number is 0.000324 Sey Time topen to Sort Marin Time token to Sort 13500 number is 0.003507 Au Timetoken to Sort 14500 number 4 0,003624 & Evernel twent? the. 14500,00305674 44 a . 25 5 6 0.15 1300000 in red Amer 0 0.05. P520000 0.06339110 020000 15000 10000 token to soit Times token to sort 0.002 8363 4600 runber tour to soot 0.0037030 token to Mine tolur to Sort 6500 number as 032 1 508 00.0 mi