Code, Compile & Run

Contest Code/Name (e.g. JULY15/PRACTICE)

Problem Code/Name (e.g. TEST)

C (gcc 6.3)   ▼   💾   🗑   Code gets autosaved every second

```c
1   #include <stdio.h>
2   #include <string.h>
3
4   main()
5   {
6       int smallest, secondsmallest;
7       int array[100], size, i;
8       printf("\n How many elements do you want to enter: ");
9       scanf("%d", &size);
10      printf("\nEnter %d elements: ", size);
11      for (i = 0 ; i < size; i++)
12          scanf("%d", &array[i]);
13      if (array[0] < array[1]) {
14          smallest = array[0];
15          secondsmallest = array[1];
16      }
17      else {
18          smallest = array[1];
19          secondsmallest = array[0];
20      }
21      for (i = 2; i < size; i++) {
22          if (array[i] < smallest) {
23              secondsmallest = smallest;
24              smallest = array[i];
25          }
26          else if (array[i] < secondsmallest) {
27              secondsmallest = array[i];
28          }
29  \
```

30:1

Open File

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```
23          secondsmallest = smallest;
24          smallest = array[i];
25          }
26 ▾        else if (array[i] < secondsmallest) {
27              secondsmallest = array[i];
28          }
29      }
30      printf(" \nSecond smallest element is %d", secondsmallest);
31 }
```

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Custom Input

```
5
4 5 2 7 8
|
```

Status Successfully executed   **Date** 2020-06-06 13:47:49   **Time** 0 sec

Input

```
5
4 5 2 7 8
```

Output

```
How many elements do you want to enter:
Enter 5 elements:
Second smallest element is 4
```

C Program to find second smallest element in an array

Algorithm:

step 1: start

step 2: input size

step 3: display how many elements do you want to entry

step 4: display enter %d elements

     for (i=0; i<size; i++)

       input array [i]

step 5: if (array[0] < array [1])

   5.1: smallest = array [0]

   5.2: second smallest = array [1]

   5.3: goto step 10 and step 11

step 6: else

     smallest = array [1]

      Second smallest = array [0]

      goto step 10 and step 11

step 7: for (i=2; i<size; i++)

step 8: if (array[i] < smallest)

     Second smallest = smallest

      smallest = array [i]

      goto step 10 and step 11

step 9: else if (array[i] < second smallest)

     second smallest = array [i]

step 10: Print the second smallest element

step 11: stop

Flow chart :

```
                    ( start )
                        |
                        v
                 +--------------+
                 |  input size  |
                 +--------------+
                        |
                        v
                 /Print how many /
                /elements do you /
               / count do enter /
                        |
                        v
                 /  Read  size  /
                        |
                        v
                / enter Xd element /
                        |
                        v
                 +--------------+
                 |    i = o     |
                 +--------------+
                        |
                        v
                    / i<size \\------ false -------+
                    \\       /                     |
                        |                          v
                      True                  / array[0] \\------ false ------+
                        |                   \\ array[1] /                    |
                        v                        |                          v
                 +--------------+              True               +-------------------+
                 |  input array |                |                | smallt = array[1] |
                 +--------------+                v                +-------------------+
                        |             +-------------------+                |
                        v             | smallest = array[1]|               v
                 +--------------+     +-------------------+     +------------------------+
                 |     i++      |                |             | second smaller = array[0]|
                 +--------------+                v             +------------------------+
                                      +------------------------+            |
                                      | second small = array[1]|           v
                                      +------------------------+   +--------------+
                                                                   |    i = 2     |
                                                                   +--------------+
                                                                          |
                                                                          v
                                                                     / i< size \\--- false ---+
                                                                     \\        /               |
                                                                          |                    |
                                                                        true                   |
                                                                          |                    |
              +--------------------- false -----------+                   v                    |
              |                                       |           / array[i] \\                |
              |                                       |           \\ <smallt  /                |
              |                                       |                |                        |
              |                                       |              True                       |
              |                                       |                v                        |
              |                               / array[i] <second\\  +-----------------------+   |
              |                 +--- false ---\\    smallt      /   | second small = smallt |   |
              |                 |             \\                /   +-----------------------+   |
              |                 v                  |                        |                   |
              |          +--------------+        true                       v                   |
              |          |     i++      |          |              +-------------------+         |
              |          +--------------+          v              | smallt = array[i] |         |
              |                          /Print the second /      +-------------------+         |
              +------------------------>/ smallt element  /<-------------------------------------+
                                                |
                                                v
                                            ( stop )
```