

Algorithm to Find Smallest & Second Smallest value given multiple ints

Given n as number of input ints

Given set S of size num of input ints

Let $\text{smallest} = \text{MAX_VALUE}$

Let $\text{secondSmallest} = \text{MAX_VALUE}$

for i in n :

if $i < \text{smallest}$:

$\text{secondSmallest} = \text{smallest}$

$\text{smallest} = i$

if $i < \text{secondSmallest}$ and $i \neq \text{smallest}$:

$\text{secondSmallest} = i$

return smallest and secondSmallest

This works because we loop through each value to make sure we compare with the smallest and second smallest while making sure smallest doesn't equal second smallest

Runtime estimate: $O(n)$ - for loop until n is reached