SECOND HIGHEST DIFFERENCE IN AN ASCENDING SERIES (ALGORITHM)

Alternative 1

```
//read a_n : 1 to n

if (a2-a1) > (a3-a2) then
        high←(a2-a1)
        sec_high← (a3-a2)
elseif (a2-a1)=(a3-a2) then
        high←(a2-a1)
        sec_high←0
else
        high←(a3-a2)
        sec_high← (a2-a1)

for i← 4 to n do
        if  (ai-ai-1)>sec_high then
                if (ai-ai-1) <high then
                        sec_high← (ai-ai-1)
                elseif (ai-ai-1)>high then
                        sec_high←high
                        high← (ai-ai-1)
if sec_high=0
        print 'all elements are equal'
else
        print sec_high ,'is the second highest.'
```

Alternative 2

```
high←0
sec_high←0
for i← 2 to n do
        if  (ai-ai-1)>sec_high then
                if (ai-ai-1) <high then
                        sec_high← (ai-ai-1)
                elseif (ai-ai-1)>high then
                        sec_high←high
                        high← (ai-ai-1)
```

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