
Algorithm 1 Incremental Search

```
1: procedure INCREMENTALSEARCH
2:    $x_0$ 
3:    $\delta$ 
4:   Iterations
5:   if  $i > y=0$  then
6:      $x_1 = x_0 + \Delta y_1 = f(x_1)$ 
7:      $counter = x_1$ 
8:     while  $y_0 * y_1 > 0$  &  $y_1 \neq 0$  and  $counter \leq iter$  do
9:        $x_0 = x_1$ 
10:       $y_0 = y_1$ 
11:       $x_1 = x_0 + \delta$ 
12:       $y_1 = f(x_1)$ 
13:       $counter++$ 
14:    end while
15:    if  $y_1 = 0$  then
16:      " $X_1$  is a root"
17:    else if  $y_0 * y_1 < 0$  then
18:      " $There's a root between x_0 and x_1$ "
19:    else
20:      Fail
21:       $Cont = 1$ 
22:    end if
23:  end if
24: end procedure
```
