

article algorithm algpseudocode

Algorithm 1 Demo of Algorithmic Features

Require: A list L of integers.

Ensure: The final value of $result$.

```
0:  $n \leftarrow \text{length of } L$  {Initialization}
0: if  $n == 0$  then
0:   print "List is empty"
0:   return  $-1$ 
0: end if
0: for  $i = 1$  to  $n$  do
0:    $element \leftarrow L[i]$ 
0:   while  $element \neq 0$  do
0:     if  $element$  is even then
0:        $element \leftarrow element/2$ 
0:     else
0:       if  $element$  is odd then
0:          $element \leftarrow element - 1$ 
0:       end if
0:     end if
0:   end while
0: end for
0: procedure CALCULATESUM( $a, b$ )
0:   return  $a + b$ 
0: end procedure
0: function FACTORIAL( $num$ )
0:   if  $num == 0$  then
0:     return  $1$ 
0:   else
0:     return  $num \times \text{FACTORIAL}(num - 1)$ 
0:   end if
0: end function
0:  $result \leftarrow \text{CALCULATESUM}(3, 4)$ 
0: repeat
0:    $result \leftarrow result - 1$ 
0: until  $result == 0$ 
0: loop
0:   print "This will loop indefinitely"
0: end loop
0: return  $result$ 
=0
```
