

This algorithm can be used to make the amplitude of a given sequence,  $s$  by

# SCALING AMPLITUDE

Version 0.1  
Computing  
COMP120

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some factor  $f$ . This could make the sequence louder ( $f \geq 1$ ) or quieter ( $f < 1$ ). If the scaled value is outside of the minimum or maximum permitted value, it is clipped to the minimum or maximum value.

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## Algorithm 1 Scaling Amplitude

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### Require:

$$v_{min} \leq s_{0..n} \leq v_{max}$$
$$0 \leq f$$

### Ensure:

the elements in the list  $n$  meet the requirements for  $s$ .

```
1: function SCALE( $s, f$ )
2:    $n \leftarrow$  LIST
3:   for  $i = 0, i < len(s)$  do
4:      $v \leftarrow s_i f$ 
5:      $v \leftarrow max(v_{max}, v)$ 
6:      $v \leftarrow min(v_{min}, v)$ 
7:      $n \leftarrow v$ 
8:   end for
9:   return  $n$ 
10: end function
```

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