

## Scale Examples

OWT

6/22/06

### 3 Tone “Pythagorean”

```
>> data =  
scaleLibrary('3Tone')  
data =  
  intervals: [408.00  
702.00]  
  interval_wts: [0.20  
1.00]  
  key_wts: [1.00 0.00  
0.50]  
  octave: 1200.00  
  name: '3Tone'  
  
>> scale = tuning_v3(data)  
scale =  
  0  
  284.61  
  732.81
```

## 12 Tone ET, No Weights

```
>> scale = tuning_v3(data)
```

```
scale =
```

```
  0  
100.00  
200.00  
300.00  
400.00  
500.00  
600.00  
700.00  
800.00  
900.00  
1000.00  
1100.00
```

```
>> data.intervals'
```

```
ans =
```

```
100.00  
204.00  
300.00  
386.00  
498.00  
588.00  
702.00  
800.00  
900.00  
996.00  
1100.00
```

## Simple Just 17 Tone Repeating at the 12th

```
>> data.intervals'  
ans =  
100.00  
>> data = 204.00  
scaleLibrary('simpleJust17Tone') 300.00  
scale = tuning_v3(data) 386.00  
data = 498.00  
  intervals: [1x17 double] 600.00  
  interval_wts: [1x17  
double] 702.00  
  key_wts: [1x18  
double] 800.00  
  octave: 1702.00 900.00  
  name: 'simpleJust17Tone' 1000.00  
scale = 1100.00  
  0 1200.00  
  181.77 1300.00  
  225.44 1404.00  
  384.75 1500.00  
  401.72 1586.00  
  489.86 1698.00  
  650.88  
  699.88  
  863.88  
  920.01  
  1011.23  
  1097.24  
  1172.11  
  1243.22  
  1387.60  
  1468.11  
  1558.62  
  1664.86
```

**Gamelan Lipur Sih,  
slendro  
(finding it by fixing ideal  
intervals)**

```
>>findScaleWeights('slendroCandidate',  
'lipursih', 'specified')  
octave =  
    1216.00  
final error: 1.01  
candidate =  
    231.00    524.00  
    708.00    978.00  
interval and key weights  
    1.00    1.38  
    2.00    0.00  
    3.00   -1.28  
    4.00    0.00  
     0    1.07  
    1.00    0.00  
    2.00   -0.00  
    3.00    1.52  
    4.00   -0.00  
target and scale  
     0     0  
    268.00    268.00  
    503.00    503.00  
    748.00    747.87  
    978.00    978.88  
ans =  
    intervals: [231.00 524.00 708.00 978.00]  
    interval_wts: [4x1 double]  
    key_wts: [5x1 double]  
    octave: 1216.00  
    name:  
'slendroCandidate'
```

**Werckmeister III  
(finding it by fixing ideal  
intervals)**

>>findScaleWeights('werk3Candidate', 'werk3',  
'specified')  
final error: 15.18

498.00	498.02
588.00	583.07
696.00	696.00
792.00	791.46
888.00	884.40
996.00	996.60
1092.00	1092.00

ans =

**interval and key weights**

1.00	0.00
2.00	0.00
3.00	0.00
4.00	1.53
5.00	1.85
6.00	0.00
7.00	1.68
8.00	0.00
9.00	0.10
10.00	0.00
11.00	-0.00
0	0.00
1.00	0.00
2.00	0.05
3.00	0.00
4.00	0.00
5.00	1.92
6.00	0.00
7.00	0.00
8.00	0.00
9.00	0.00
10.00	0.12
11.00	0.00

intervals: [1x11 double]  
interval\_wts: [11x1 double]  
key\_wts: [12x1 double]  
octave: 1200.00  
name: 'werk3Candidate'

**target and scale**

0	0
90.00	88.29
192.00	195.18
294.00	294.59
390.00	390.00