

```
1  h   = [1 0 -1 1 -1]; %samples
2  NHL = -0.2; %linker Rand
3  NHR = 0.6; %rechter Rand
4  IH   = 5; % breite
5  nh   = [-1 0 1 2 3]; %indexachse
6  th   = [-0.2 0.0 0.2 0.4 0.6]; %zeitachse
7
8
9  x   = [1 3 2 2 2 1]; %samples
10 NXL = -0.4; %linker Rand
11 NXR = 0.6; %rechter Rand
12 IX   = 5; % breite
13 nx   = [-2 -1 0 1 2 3]; %indexachse
14 tx   = [-0.4 -0.2 0.0 0.2 0.4 0.6]; %zeitachse
15
16
17 y = []; %samples
18 NYL = -0.6; %linker Rand
19 NYR = 1.2; %rechter Rand
20 IY   = 10; % breite
21 ny   = []; %indexachse
22 ty   = []; %zeitachse
23
24
25 fs = 22050; %Abtastfrequenz
26 T  = 1/fs; %Abtastabstand 1/fs
27
28
29 %zeitachse Start
30 ty(1) = NYL;
31 ty(IY) = NYR;
32 schritt = (abs(NYL)+abs(NYR)) / (IY-1);
33
34 for i=2:IY-1
35     ty(i) = NYL + ((i-1)*schritt);
36 end
37 %zeitachse Ende
38
39 %indexachse Start
40 for i=1:IY
41     ny(i) = ty(i)/schritt;
42 end
43
44 %indexachse Ende
45
46
47 z2=1;
48
49 for j=ny(1):1:ny(1)+IY-1
50
51     z1 = 1; % Zähler
52     eintrag = 0;
53     for i=nh(1):1:nh(1)+IH
54         h_ind = find(nh == i);
55
56         temp = j-i;
57         x_ind = find(nx == temp);
58
59         if isempty(h_ind)
60             E(z1) = 0;
61
62         elseif isempty(x_ind)
63             E(z1) = 0;
64
65         else
66
67             E(z1) = h(h_ind) * x(x_ind);
68         end
59     end
end
```

```
69
70     eintrag = eintrag+E(z1);
71     z1 = z1+1;
72 end
73
74
75
76
77
78     y(z2) = eintrag;
79     z2=z2+1;
80 end
81
82 subplot(3,1,1)
83 stem(nx,x)
84 axis([-3,6,-3,3])
85 subplot(3,1,2)
86 stem(nh,h)
87 axis([-3,6,-3,3])
88 subplot(3,1,3)
89 stem(ny,y)
90 axis([-3,6,-3,3])
91
92 figure
93 subplot(3,1,1)
94 stem(tx,x)
95 axis([-0.6,1.2,-3,3])
96 subplot(3,1,2)
97 stem(th,h)
98 axis([-0.6,1.2,-3,3])
99 subplot(3,1,3)
100 stem(ty,y)
101 axis([-0.6,1.2,-3,3])
```