

```

1  h = [-1 0 1 0 -1 1]; %samples
2  NHL = -0.2; %linker Rand
3  NHR = 0.3; %rechter Rand
4  IH = 6; % breite
5  nh = [-2 -1 0 1 2 3]; %indexachse
6  th = [-0.2 -0.1 0.0 0.1 0.2 0.3]; %zeitachse
7
8
9  x = [1 -1 0 2 2 0 -1 1]; %samples
10 NXL = -0.1; %linker Rand
11 NXR = 0.6; %rechter Rand
12 IX = 7; % breite
13 nx = [-1 0 1 2 3 4 5 6]; %indexachse
14 tx = [-0.1 0.0 0.1 0.2 0.3 0.4 0.5 0.6]; %zeitachse
15
16
17 y = []; %samples
18 NYL = -0.3; %linker Rand
19 NYR = 1.2; %rechter Rand
20 IY = 16; % breite
21 ny = []; %indexachse
22 ty = []; %zeitachse
23
24 fs = 22050; %Abtastfrequenz
25 T = 1/fs; %Abtastabstand 1/fs
26
27 %zeitachse Start
28 ty(1) = NYL;
29 ty(IY) = NYR;
30 schritt = (abs(NYL)+abs(NYR)) / (IY-1);
31
32 for i=2:IY-1
33     ty(i) = NYL + ((i-1)*schritt);
34 end
35 %zeitachse Ende
36
37
38 %indexachse Start
39 for i=1:IY
40     ny(i) = ty(i)/schritt;
41 end
42 %indexachse Ende
43
44
45 z2=1;
46 for j=ny(1):1:ny(1)+IY-1
47     z1 = 1; % Zähler
48     eintrag = 0;
49
50     for i=nh(1):1:nh(1)+IH
51         h_ind = find(nh == i);
52         temp = j-i;
53         temp = round(temp)
54         x_ind = find(nx == temp);
55         if isempty(h_ind)
56             E(z1) = 0;
57         elseif isempty(x_ind)
58             E(z1) = 0;
59         else
60
61             E(z1) = h(h_ind) * x(x_ind);
62
63         end
64         eintrag = eintrag+E(z1);
65         z1 = z1+1;
66     end
67
68     y(z2) = eintrag;

```

```
69     z2=z2+1;
70 end
71
72
73 subplot(3,1,1)
74 stem(nx,x)
75 axis([-4,12,-3,4])
76 subplot(3,1,2)
77 stem(nh,h)
78 axis([-4,12,-3,4])
79 subplot(3,1,3)
80 stem(ny,y)
81 axis([-4,12,-3,4])
82
83 figure
84 subplot(3,1,1)
85 stem(tx,x)
86 axis([-0.6,1.2,-3,3])
87 subplot(3,1,2)
88 stem(th,h)
89 axis([-0.6,1.2,-3,3])
90 subplot(3,1,3)
91 stem(ty,y)
92 axis([-0.6,1.2,-3,3])
```