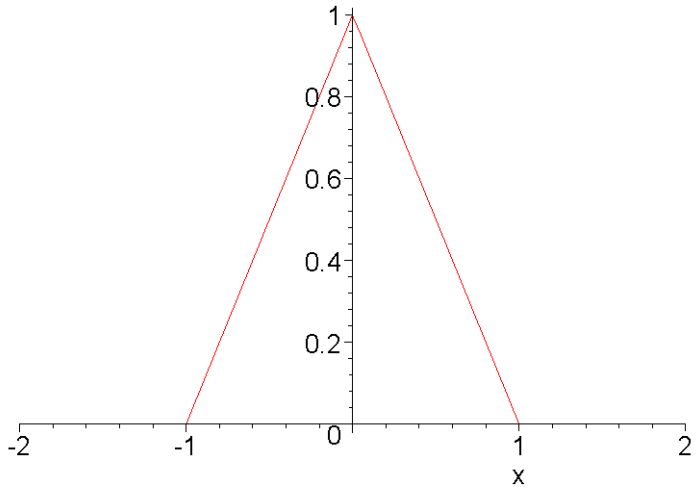
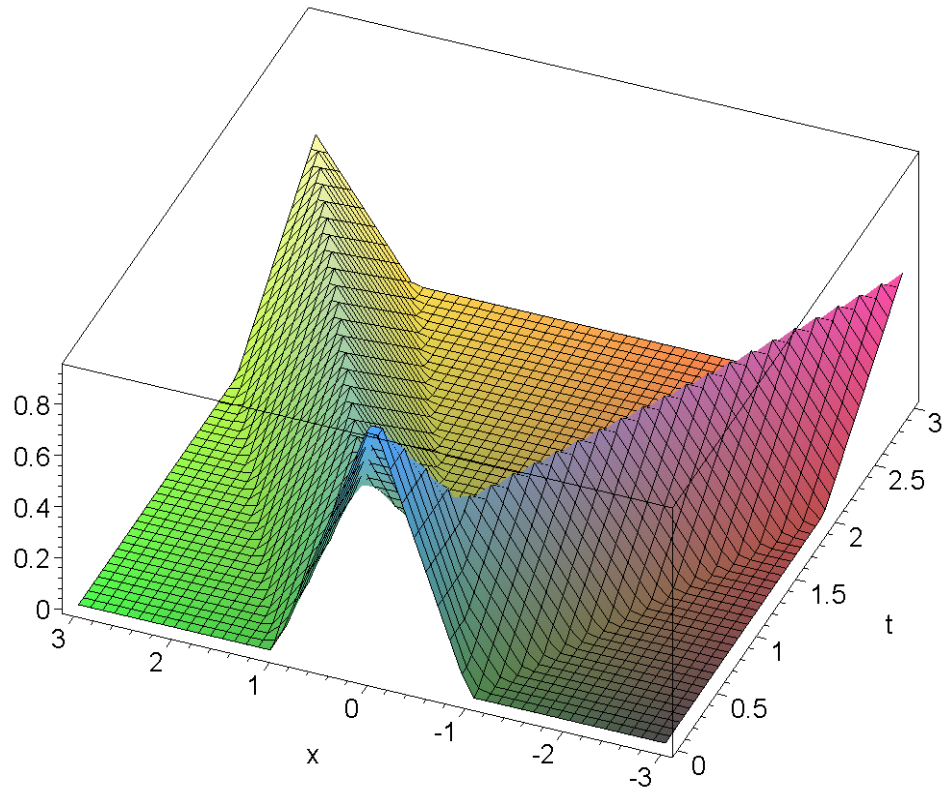
```
> f:= x-> piecewise(x<-1,0,x>=-1 and x<0,x+1,x>=0 and
  x<1,1-x,x>=1,0); # f(x) is the initial displacement
```

$$f := x \to \text{piecewise}(x < -1, 0, -1 \le x \text{ and } x < 0, x + 1, 0 \le x \text{ and } x < 1, 1 - x, 1 \le x, 0)$$

```
> plot(f(x),x=-2..2);
```




```
> u:= (x,t)-> 0.5*(f(x+t)+f(x-t)): # with initial velocity = 0, this
  is d'Alembert solution
> plot3d(u(x,t),t=0..3,x=-3..3,axes=BOXED,grid=[50,50]);
```




```
>
```