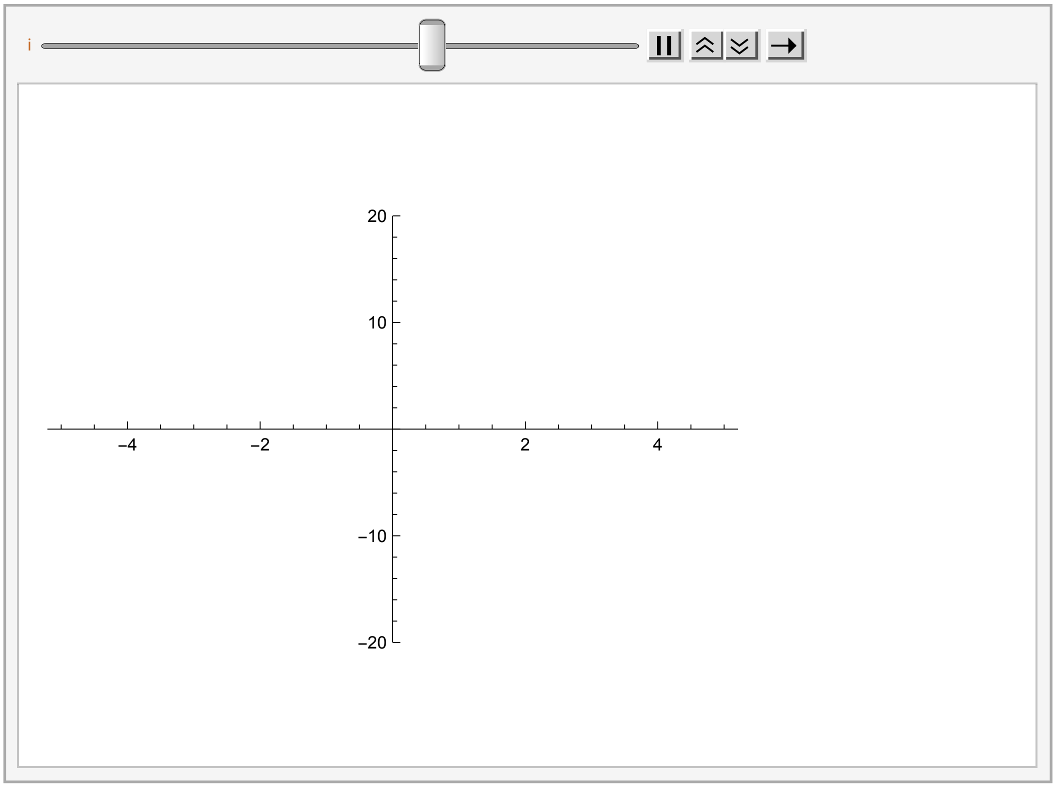
```
u[x_, t_, f_] := f * t - (x - f/2 * t^2)/(1 - t)
```

In[79]:=

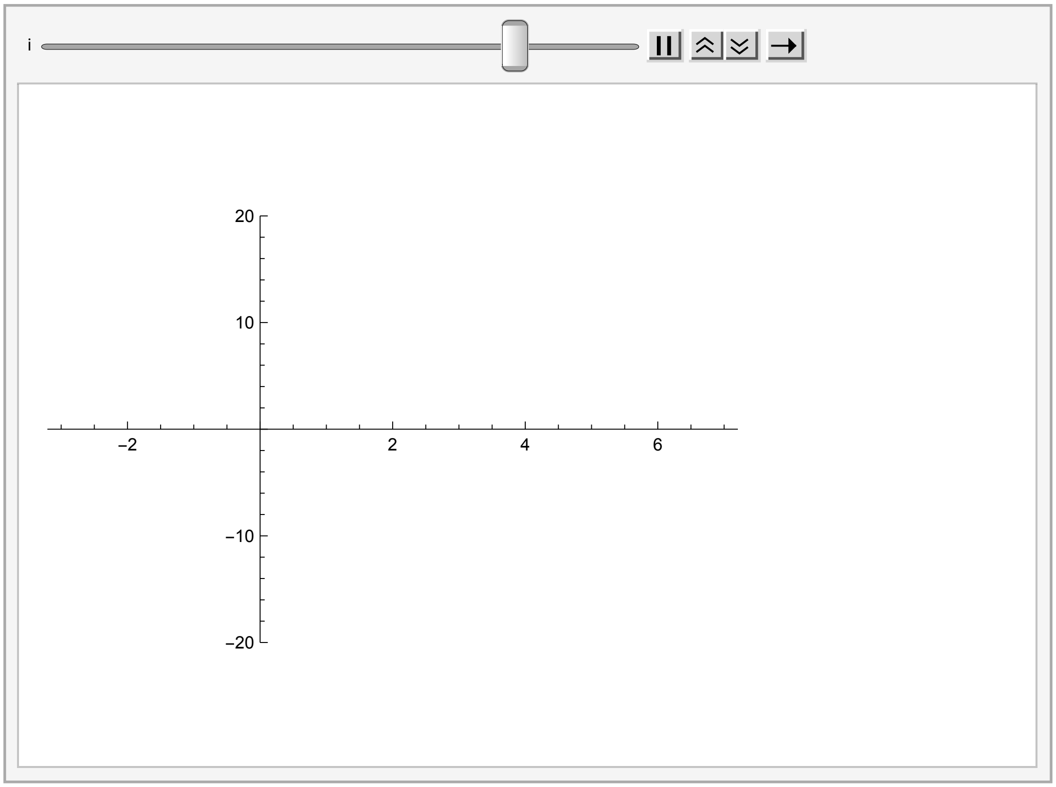
```
Animate[Plot[u[x, i, 0], {x, -5, 5}, PlotRange → 20], {i, 0, 1}]
```



Here, we have the homogeneous Burger's Equation (i.e. Inviscid). Because there are no sources/sinks, each point with an initial velocity (i.e. everything but the origin) accelerates in the same direction until t_{shock}.

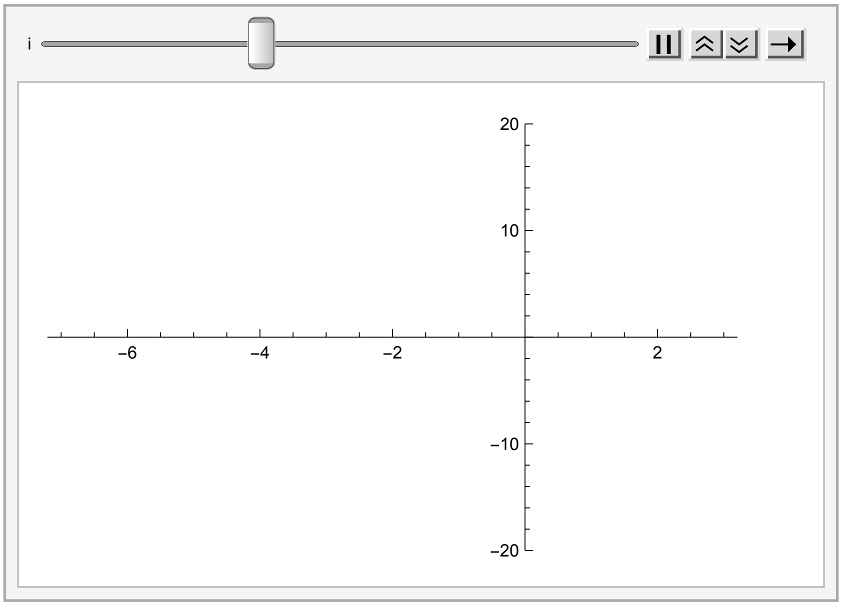
In[ ]:=
```
Animate[Plot[u[x, i, 5], {x, -3, 7}, PlotRange → 20], {i, 0, 1}]
```

Out[ ]=



f = 5. Due to the presence of a source, some points with negative initial velocity end up with positive velocity at some t between 0 and t_{shock}. One point (in particular, x=f/2=2.5), which has initially negative velocity ends up with 0 velocity at t_{shock}.

In[ ]:=
```
Animate[Plot[u[x, i, -5], {x, -7, 3}, PlotRange → 20], {i, 0, 1}]
```
Out[ ]=



f = -5. The same story as f=5, but because we now have a sink, things are shifted towards negative speeds. Again, we have a point which has initially non-zero velocity which ends up with 0 velocity at the critical point (x=f/2=-2.5).