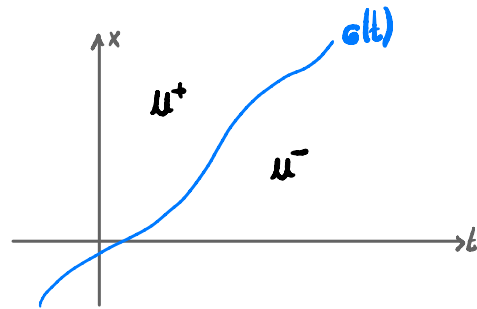


$$u_t + (f(u))_x = 0$$

$$u(0, x) = g(x)$$

$u \dots$ WEAK SOLUTION

$$\int_0^\infty \int_{\mathbb{R}} (u \psi_t + f(u) \psi_x)(t, x) dx dt = - \int_{\mathbb{R}} g(x) \psi(0, x) dx \quad \forall \psi \in C_c^\infty([0, \infty) \times \mathbb{R})$$

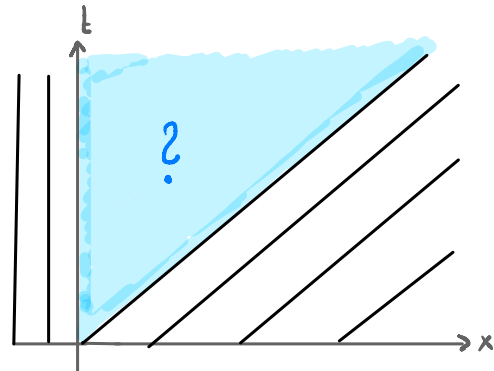
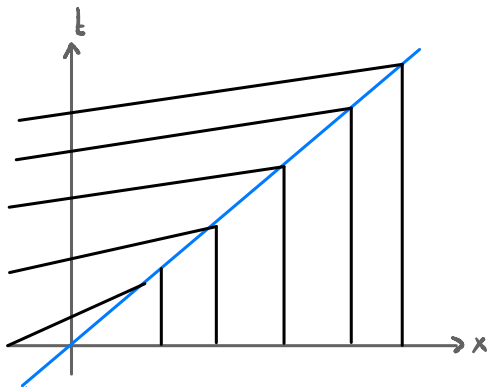


u^+, u^- CLASSICAL SOLUTIONS

$$c'(t) = \frac{f(u^+(t, c(t))) - f(u^-(t, c(t)))}{u^+(t, c(t)) - u^-(t, c(t))}$$

RANKINE-HUGONOT CONDITION.

$u_t + u u_x = 0$
CHARACTERISTICS



SEVERAL POSSIBILITIES