

$$\frac{du}{dt} = u^q$$

$$t \in [0, 1]$$

Caso $q = 1$

$$\frac{du}{dt} = u$$

$$\int \frac{du}{u} = \int dt$$

$$\ln u = t$$

$$u = e^t$$

$q < 1$

$$\frac{du}{dt} = u^q$$

$$\int \frac{du}{u^q} = \int dt$$

$$\frac{u^{-q+1}}{-q+1} = t$$

$$u^{1-q} = (t(1-q) + 1)$$

$$u = (t(1-q) + 1)^{\frac{1}{1-q}}$$