Exercise 5

$$C^{n+1} = \frac{C^n}{(1 + K\Delta t}$$

↓

$$Z = \frac{1}{1 + K\Delta t}$$

$\therefore$ if $K > 0$ and $\Delta t > 0$

$= 1 + K\Delta t \rightarrow 0 < Z < 1$

$$C_{n+1} = (1 - K\Delta t)\, C_n$$

$$\Delta t < \frac{1}{K}$$

FTS unstable because !

$$0 \nleq \frac{1}{1 + K\Delta t} < 1 \quad \text{for all } \Delta t > 0$$