Timers

Potential Dividers with CAPACITORS in them can be used for TIMING

V ○

R

Vs = Signal Voltage
This Voltage CHANGES OVER TIME as the capacitor *"charges up"*

C

0V ○
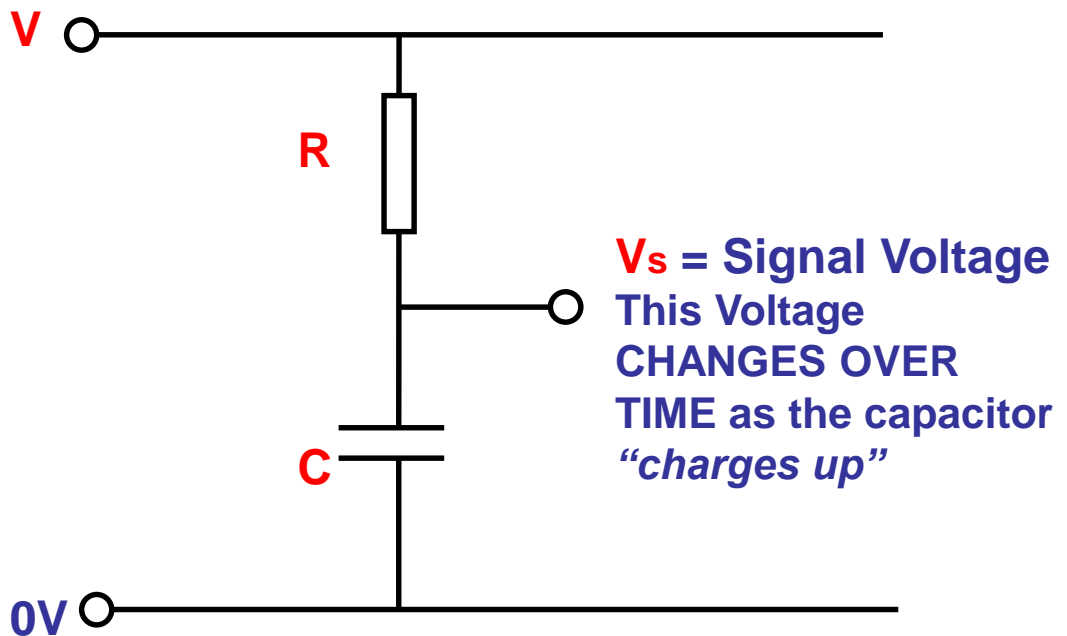
The resistor slows down the current which then flows into the Capactitor. As the capacitor "fills up" (becomes fully charged) it's **resistance increases** and Vs gets larger and larger.

Changing the Values of either the Resistor (R) or the Capacitor (C) will change the TIME CONSTANST (T)

The TIME CONSTANT is a fancy name for how long it takes a capacitor to charge up from current through a resistor.

The **Time Constant** can be calculated using this formula...

$$T = R \times C \text{ (roughly)}$$

TIME IS MEASURED IN <u>SECONDS</u>

But **USE YOUR COMMON SENSE** to check your answer!