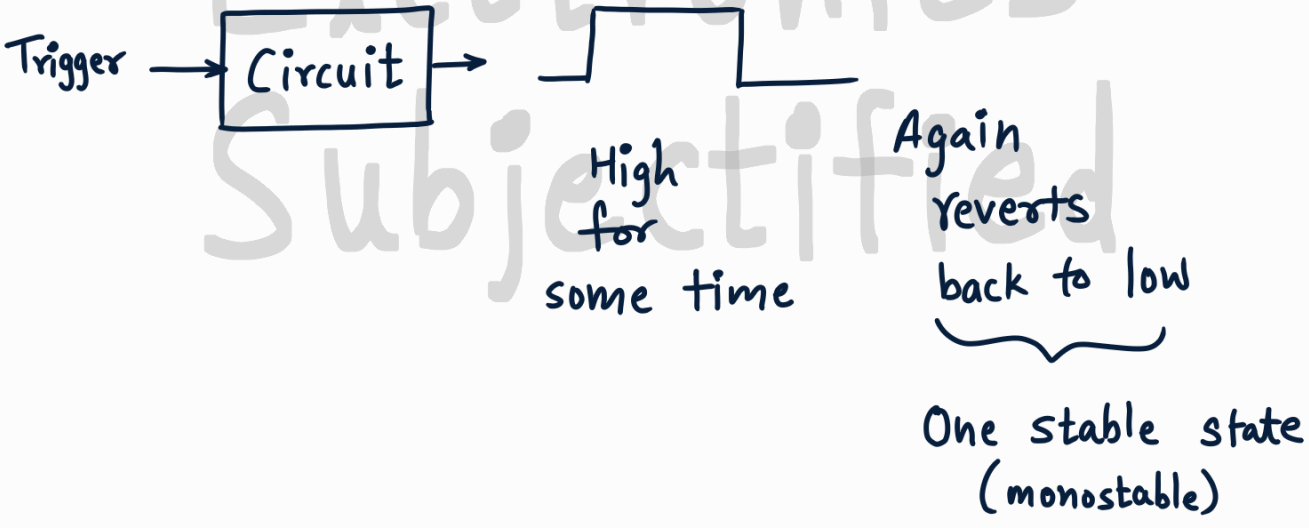
# Monostable Multivibrator Using 555

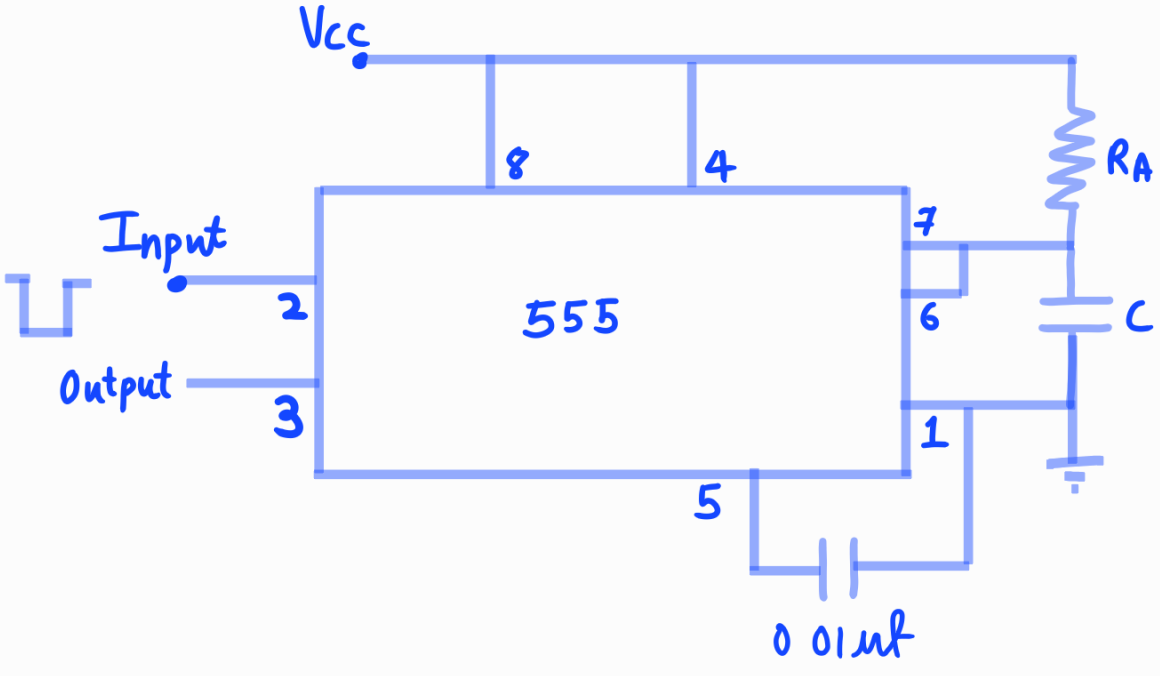
↳ one shot multivibrator

Needs external trigger pulse for output = 1 (High)

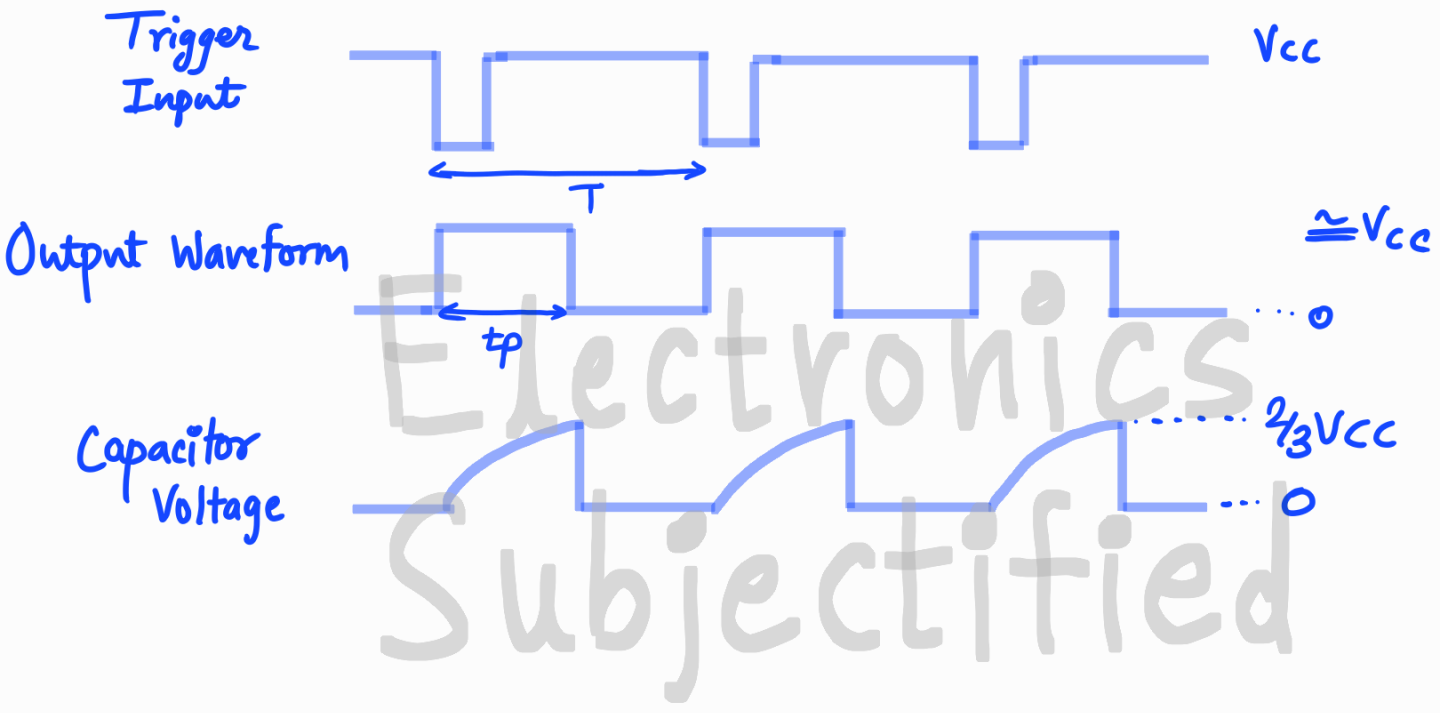




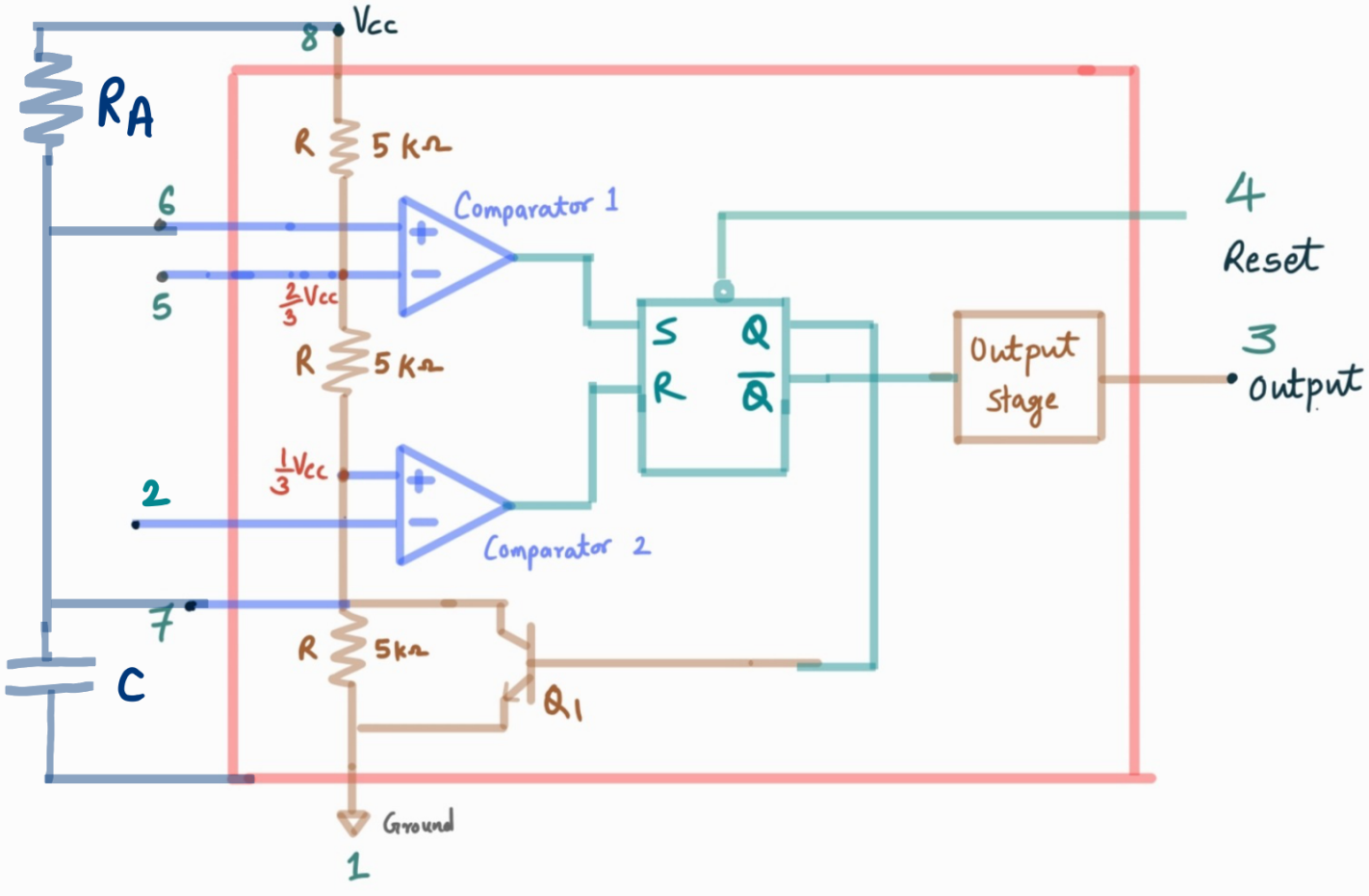

## Circuit Diagram



# Waveforms





# Working

- Initially when the circuit is in stable state

  O/p is low → Transistor is on

  Capacitor is shorted out to ground

- After negative trigger pulse to pin 2

  $V_{tr} < \frac{1}{3} V_{CC}$ → O/p of comparator 2 = High

  FF reset $Q = 0, \bar{Q} = 1$

- Transistor off → Open Circuit

  Capacitor C starts charging towards $V_{CC}$ through $R_A$



- when $V_C = \frac{2}{3} V_{CC}$

  $V_C > \frac{2}{3} V_{CC}$ → O/p of comparator 1 = High

  O/p of circuit = Low ($\bar{Q}$)

  FF set $Q = 1, \bar{Q} = 0$

Transistor is ON → C discharges through $R_A$

Output of circuit remains low till the trigger is applied again

Output remains HIGH for

$$t_p = 1.1 R_A C$$ seconds

# Short Working