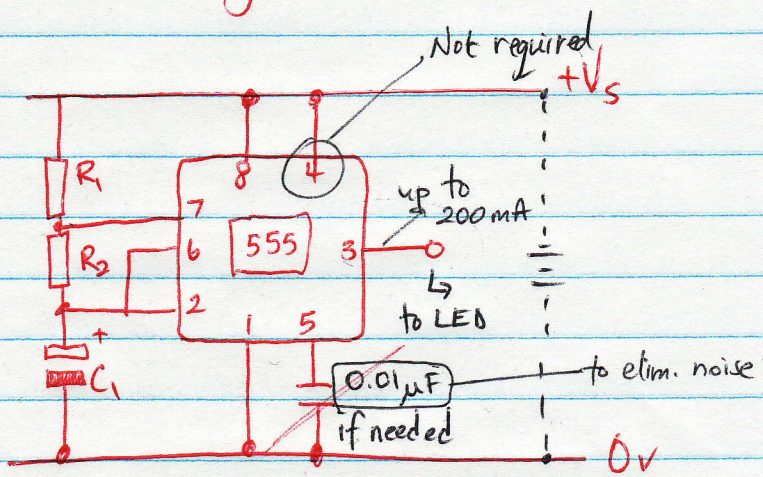
1	0V	5	Control
2	Trigger	6	Threshold
3	Output	7	Discharge
4	Reset	8	+Vs

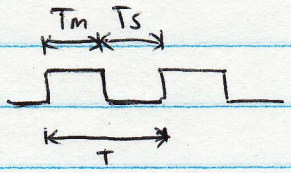
Flowers - LED
- Solar power
* flashing
- 2 × 1.2V, 900mAh, 90mA charge batteries.

555 = NE555
= ICM7555 (low power)

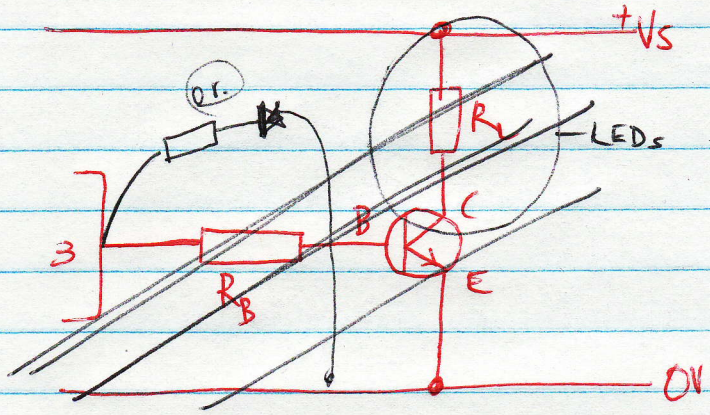
- when trigger $\leq \frac{1}{3}$ Vs, output Vs
- when threshold $> \frac{2}{3}$ Vs, output 0V
- when reset < 0.7V, output 0V



Astable circuit



$T = 0.7(R_1 + 2R_2)C_1$
$Ts = 0.7(R_1 + 2R_2)C_1$
$1.42 = C_1(R_1 + 2R_2)$



$Tm = 0.7C_1(R_1 + R_2)$
$Ts = 0.7C_1R_2$

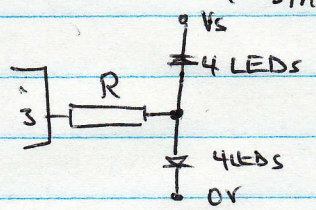
Duty cycle (≃50%) $= \frac{Tm}{Tm + Ts}$

$= \frac{0.7C_1(R_1 + R_2)}{(0.7C_1R_2) + (0.7C_1(R_1 + R_2))}$

$= \frac{R_1 + R_2}{R_1 + 2R_2}$

* $R_2 \gg R_1 \simeq 50\%$

8 LEDS 4 'sourced' 4 'sinked'



$C_1 = 10\,\mu F$
$R_1 = 10k\Omega$
$R_2 = 100k\Omega$