

# DD Lab 10 Assignment

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## 1 Circuit diagram

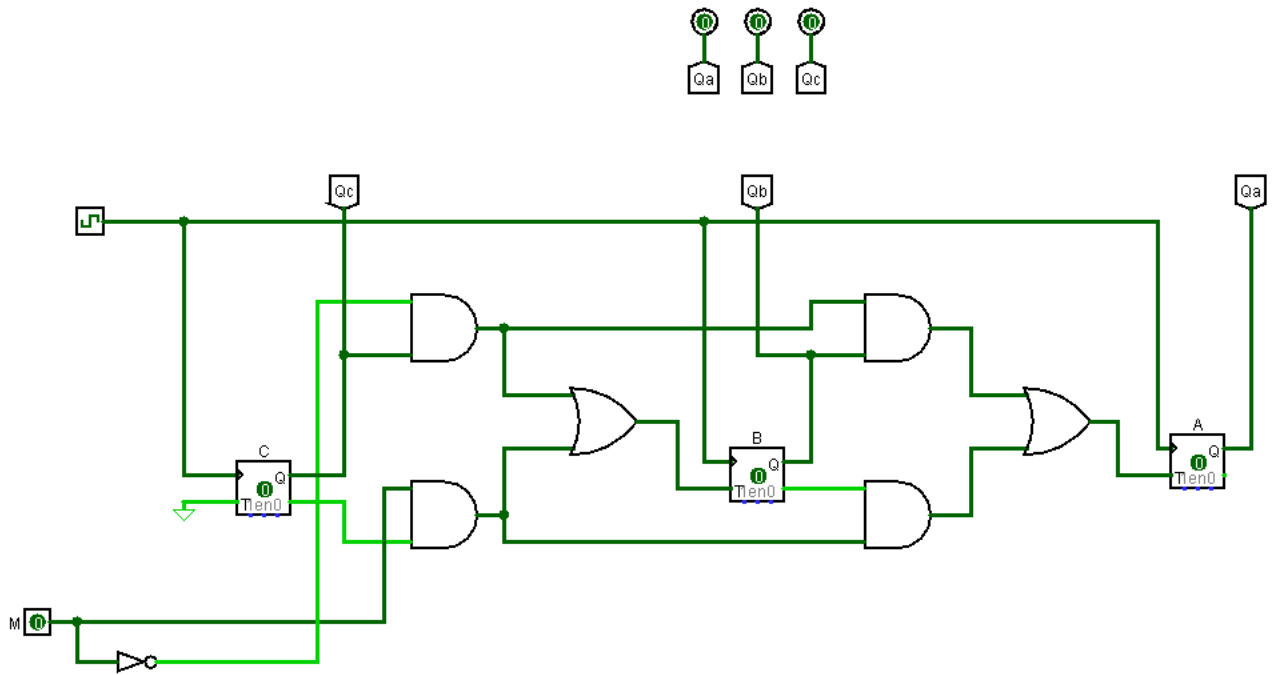


Figure 1: Counter at 0

## 2 Equations of the flip-flops

$$\begin{cases} T_c = 1 \\ T_b = \bar{M}Q_c + \bar{Q}_cM \\ T_a = \bar{M}Q_bQ_c + \bar{Q}_b\bar{Q}_bM \end{cases} \quad (1)$$

### 3 Counter counting up from 0

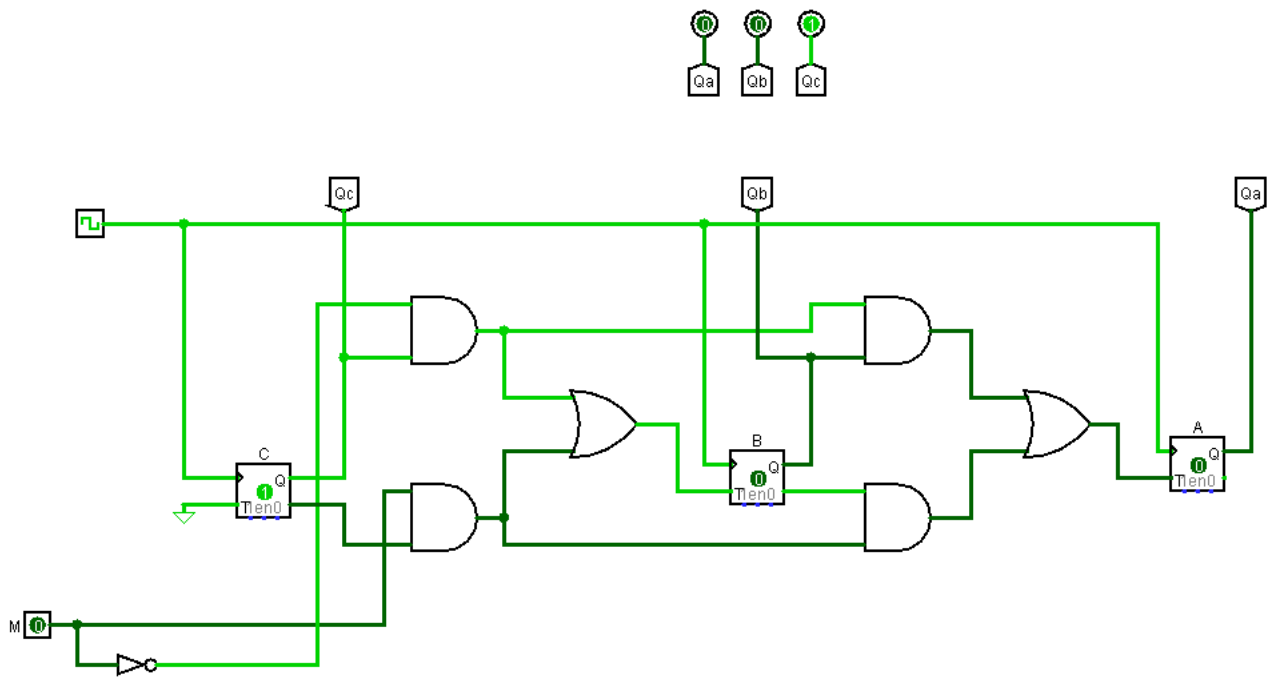


Figure 2: Counter at 1

## 4 Counter counting down from 0

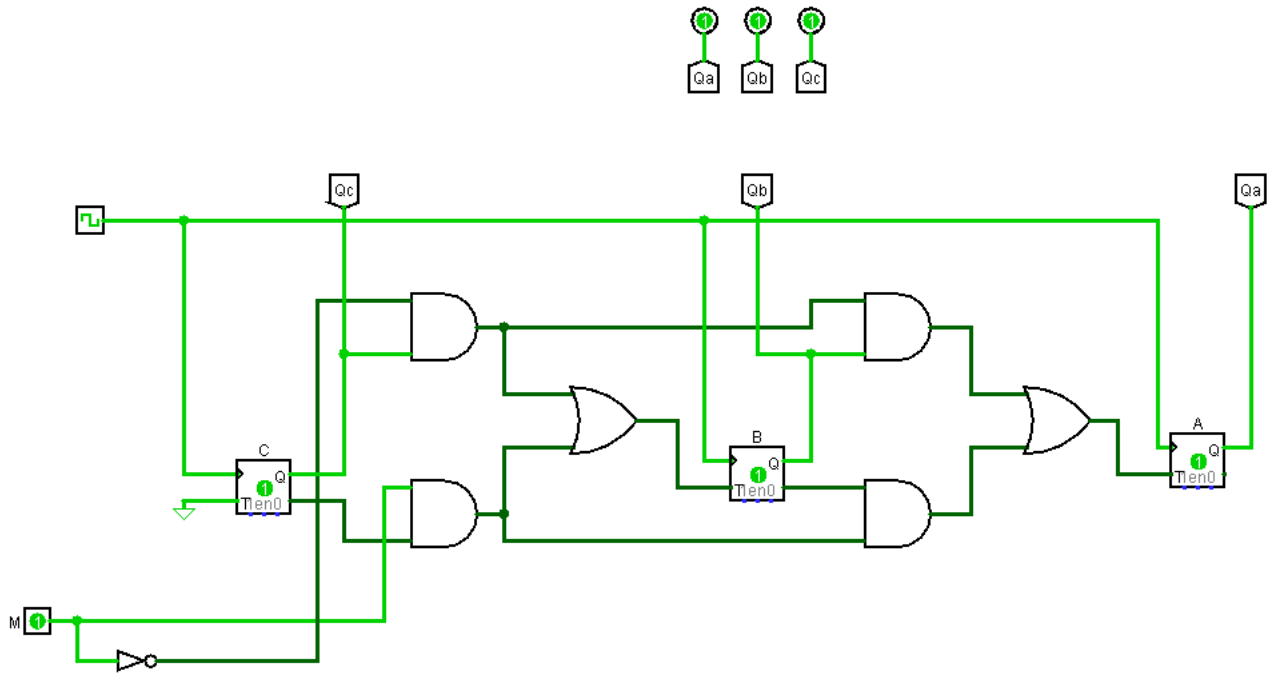


Figure 3: Counter at 7