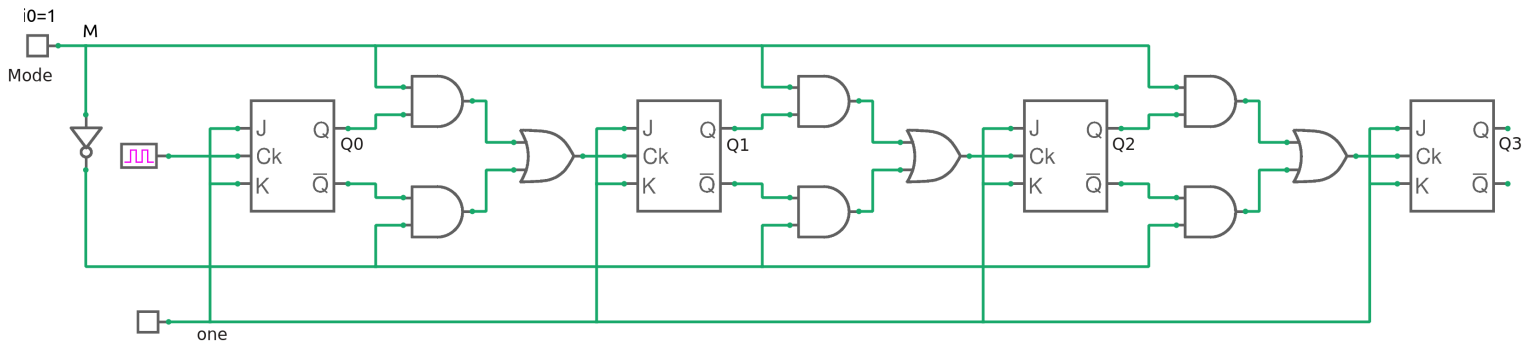


## up\_down\_counter.sqproj



Note: flip-flops are negative-edge triggered.

This example illustrates the working of an up/down counter made up of JK flip-flops.

### Exercise Set

1. Determine whether the counter will count up or down when Mode is 0 or 1. Sketch  $Q_0$ ,  $Q_1$ ,  $Q_2$ ,  $Q_3$  as a function of time in each case.
2. Compare your plots with simulation results.