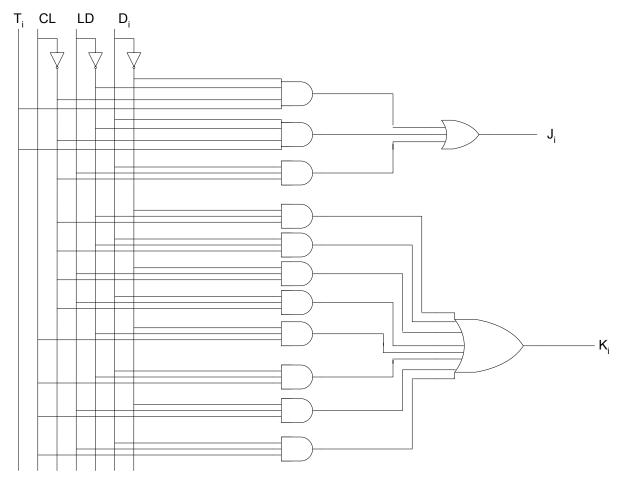
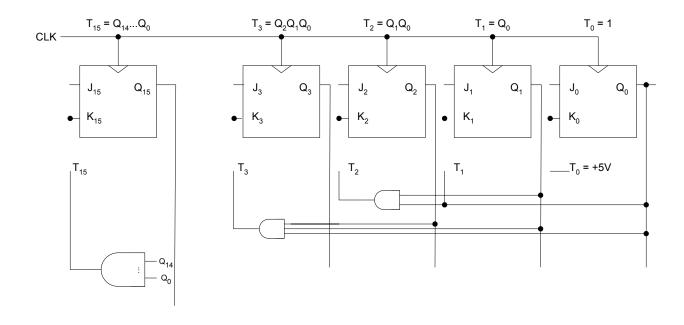
Program Counter

The program counter has the following true table. The one on the right is the characteristic table for JK flip-flops in general.

	CL	LD	D _i	J_{i}	K_{i}
Counting	0	0	0	T _i	T _i
	0	0	1	T_i	T_i
Loading info	0	1	0	0	1
	0	1	1	1	0
Clear (reset to zero)	_ 1	0	0	0	1
	1	0	1	0	1
	1	1	0	0	1
	_ 1	1	1	0	1



Program Counter (cont.)



This counter is based on the clock signal trigger. Once each MSJK (representing a binary digit and a power of 2) progressively becomes complete (ie. the full power of 2 has been reached), the AND gate triggers the next MSJK to 1 and resets the ones behind it back to 0.

Another question is how do we ensure that we start at zero every time?

Startup-Reset

